

COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR FLEET OPERATORS

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Marine fireworks on bloody Iwo Jima, as pyramids of projectiles rain death on Japanese emplacements. Rocket launchers are mounted on International four-wheel-drive trucks.
—Official U. S. Marine Corps Photo by S/Sgt. Rex M. Robbins.



AMERICA bounced back hard in this war against the Japs, and the boys who led the rebound were *United States Marines*.

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COMMERCIAL CAR JOURNAL

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WASHINGTON RUNAROUND



ODT's V-E Day Plans . . . Wash Out in 6 Months Probable . . . Army Loses Battery Battle . . . Tire Quotas Inching Up . . . But ODT is Worried . . . Tire Costs Up 70% . . . Replacement Parts Tight . . . Shop Equipment Story . . . Truck Output Off 30% . . . Newsy Nuggets

ODT's V-E Day Plans

With V-E Day just around the corner and a modified form of reconversion to production of civilian goods already under way, truck operators quite naturally are interested in the Office of Defense Transportation's plans for demobilizing its Highway Transport Department. This reporter has no information that can be classed as official. He has put leading questions to ODT officials and while the answers have not been definitive, they have given an inkling of the action that is contemplated.

Activities Being Eased

ODT is keeping a watchful eye on other government agencies and noting their reconversion activities. It does not intend to be caught napping when V-E Day is proclaimed and Army cutbacks start piling in. Considering it just good business to be fully prepared, ODT has anticipated demobilization by drawing up plans on a "when, as and if" basis. It has already eased up on some activities. The field force

has been instructed not to expend any effort in stimulating conservation or "ringing doorbells" in search of trouble. The job of the field force from here in will be to act as a fire department when trouble arises or is foreseen. The view is held that industry knows where ODT is and that it will seek it out if help is needed. The ODT practice in certain districts of seeking out operators who are having difficulty procuring replacement parts and providing them with an expediting service has been discontinued. Operators who are in trouble must now seek out the ODT.

Status Quo for 3 Mos.

Demobilization after the proclamation of V-E Day is expected to take about six months. In the first three months, when controls on manufacturers will be continued, ODT will function about as now. There will be no wholesale discharging of personnel, although it is expected that many farsighted employees will leave govern-

by George T. Hook

ment service voluntarily. In the second three-month period, relaxation of controls on materials and on production will be paralleled by a relaxation on the part of ODT.

Field Force Cut to 500

In this period ODT will reduce its field force to about 500—three to each district office, or just enough to take care of truck rationing and provide help on replacement parts. The regional offices will be the first to go, leaving administration of the district offices up to Washington. At the same time the Washington staff will be skeletonized. Conservation orders will be revoked but enough natural controls will remain to prevent truck operators from abusing their equipment or embarking on expansion. Gasoline will be more plentiful but it will continue to be rationed by OPA. More tires will be available but OPA will continue its rationing until production approaches civilian requirements.

Truck Rationing a Problem

In the second three-month period ODT will continue its truck rationing functions. The rapidity with which the Allocation Section is demobilized will depend upon the extent of military cutbacks in truck production. This reporter attended a press conference at which Chairman Krug of the War Production Board declared that the automotive industry would reach an annual production of 2,000,000 cars and trucks by the end of the second three-month period because civilian truck production will be stepped up to 1,000,000 units.

(TURN TO NEXT PAGE PLEASE)





WASHINGTON RUNAROUND

(CONTINUED FROM PAGE 35)

duction rate of 2,000,000 cars and trucks six months after V-E Day. If this is true then ODT should be in position to wind up its truck rationing by the end of the second three-month period because civilian truck production by that time will have reached a rate in excess of 200,000 annually, a rate which the Allocation Section is not geared to handle unless it is expanded. ODT is not disposed to expand any of its activities after V-E Day, and besides there is a feeling that the public would not stand for truck rationing once production started to accelerate upward. It would be difficult to get compliance and out of the question to embark on a program of rigid enforcement and punitive action.

6 Months a Good Bet

On the basis of the above there is good reason to believe that the Highway Transport Department of ODT will be all washed up six months after V-E Day.

Army Loses Battery Battle

Is the Army's face red with lead? It should be. Readers of this department have been kept abreast of all developments in the lead shortage which led up to the 25 per cent cut in civilian battery production during the first four months of this year. Well, sir, things happened in April. Someone in the War Production Board, after listening to the Army's tale of woe and demands for a 50 per cent cut in civilian production, became skeptical and had the bright idea of checking up on the Army's battery requirements. The result was the shocking disclosure that for the second quarter the Army had over-

estimated its lead requirements by 7500 tons. The Army, Navy and Air Corps participated in the survey and concurred in the findings. Result: the Army gave up the 7500 tons and 3300 of them were immediately allocated to ODT for civilian batteries. And since it never rains but it pours, an additional 20,000 tons of lead came in from Canada and Australia. (At a pretty price, it is alleged.) So for May and June civilian battery production will be at a 90 per cent rate of 1944, instead of the 75 that prevailed in the first four months. ODT is confident that this will provide civilians with all the batteries they need. With secondary smelters coming along, the lead outlook is brighter and the battery crisis passed. At the meeting of war agencies when the Army's overestimate was revealed, was a representative of OPA primed with rationing plans. After the revelation, no one paid any attention to him. Sequel: there will be no rationing or official inspection of batteries to control distribution.

Battery Degradation Out

As regards batteries, WPB went to further lengths to assure truck operators an adequate supply. It amended production limitation order L-180 to require producers during the second quarter to fill all orders received for replacement batteries for medium and heavy trucks, truck tractors, buses and off-the-highway vehicles up to a quantity equal to their 1944 average quarterly production of these types of batteries, before undertaking the manufacture of any other type. The amended order also prohibits producers from degrading the quality of replacement batteries because of the lead shortage.

Tire Quotas Inching Up

When May tire quotas were being set up the Army tried to hold civilians down to 135,000 tires in 8.25 and up sizes. This would have been a drop from the April quota of 147,850. In the showdown, the Army was not victorious and civilians were allotted 156,000 such tires. The May quota of smaller truck tires will be 314,000, a gain of 47,300 over April. The 156,000 allotment of 8.25 and up sizes approximates this department's forecast back in March that second quarter quotas would be increased to 160,000 per month. A

feeling still prevails that civilians could be allotted 160,000 of the larger tires, but it is considered wiser to build up a reserve for the tire-hungry summer months.

But ODT is Worried

Although more truck tires were made available for May, and although tire production schedules for the second quarter were revised upward, ODT did not view the tire outlook optimistically. It was fearful of a crisis in the summer months and working on angles to curtail its effect. One such angle was the load limit now legally established at 120 per cent of Tire & Rim Association standards. Consultations have been on for some time with OPA which maintains that tires are being abused by overloading. Recent Public Road Administration road checks of truck weights are being studied and may provide a basis for action. It would not be surprising if ODT temporarily revoked the 120 per cent load provision.

Tire Costs Up 70%

The ODT Statistical Section conducted a tire survey among intercity carriers. Among many interesting findings was one showing that new tire costs in 1944 were 70 per cent in excess of 1940.

Replacement Parts Tight

Since the beginning of the year Washington has reflected a tightening up in automotive replacement parts. In the month of February, for instance, ODT did 40 per cent more parts expediting than in the same month last year. The Army seems to be responsible for the tightness because of its heavy parts demands. To provide relief, the ODT is asking for 25 to 30 per cent more parts in the last half of this year than were produced in the last half of 1944. If the material for this increase is provided by WPB it will still be up to manufacturers to make application for the increased amount.

FEA Finagling

To top off the tightness, it is reported that the Foreign Economic Administration is talking about claiming 100 per cent more parts in

(TURN TO PAGE 222, PLEASE)

SYNTHETIC SAVIN' SEVEN

Give yourself and your tires a "break" by observing these seven synthetic tire saving suggestions:

1. Break-in synthetic tires for at least one month. ODT gives two methods in this article.
2. Keep tire pressures up.
3. Watch load distribution.
4. Observe 35-mile speed limit.
5. Rotate tires regularly.
6. Mate duals properly. (See article for specific instructions.)
7. Check duals about every 5000 miles to prevent greater 3/16-in. difference in radii.

That's the story in a nut shell. The article should convince you that it is possible to get good mileage from synthetics without too much fuss or bother.

CURRENT shortages of carbon black and other tire components, the early advent of hot summer throughout the country and the needs of the armed services for heavy-duty tires and rubber products until the wars in both Europe and the Pacific are won make it imperative for truck operators to get every possible mile out of their synthetic heavy-duty tires. To help operators, the Maintenance Section of the Highway Transport Department of the Office of Defense Transportation offers seven suggestions for the "breaking in" of new synthetic tires.

To get capacity service, both as to mileage and reliability, from synthetic tires, it was pointed out, commercial motor vehicle operators must begin at the beginning by taking special care in "breaking in" new tires and tubes. Synthetic rubber tread has less resistance to heat than the pre-war natural rubber tread. Moreover, synthetic rubber tires do not have extra capacity with which to withstand overloading, overspeeding, under-inflation and other abuses which could be absorbed by natural rubber tires.

In addition, synthetic tire tread rubber stretches less easily than natural rubber, and if new synthetic rubber tires are not broken in carefully, cracks may develop in the tread rubber, which will cause a rapid breakdown of the whole tire.

The ODT suggestions for obtaining the best results in the use of new synthetic rubber truck tires follow:

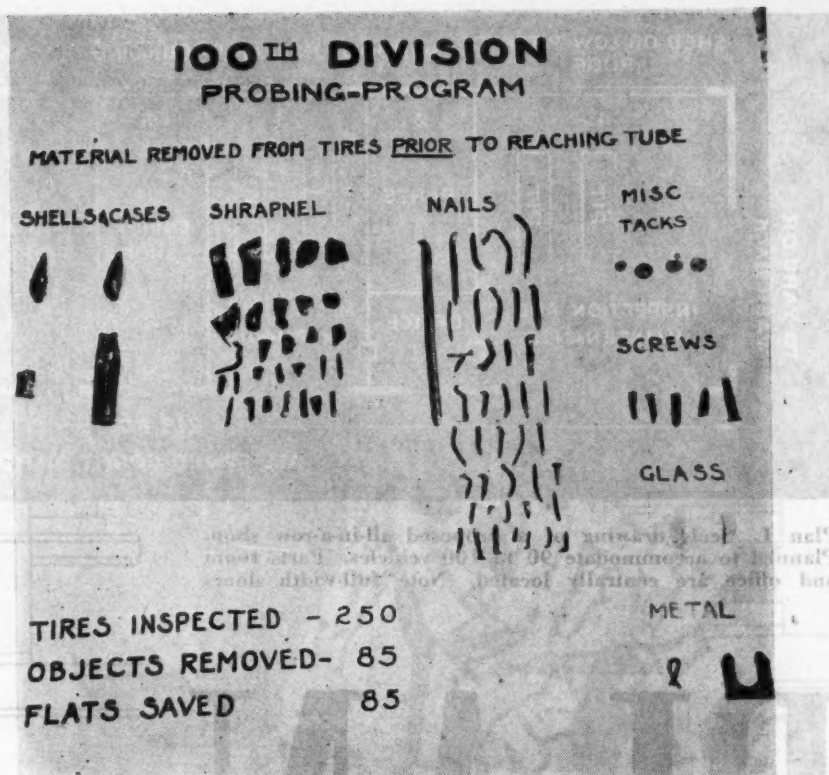
1. "Break in" new tires carefully for at least one month under a light load before using them in a fully loaded position.

Following are two methods:

- a. Where the same size tires are used on front and rear wheels, always mount the new tires on the front wheels and use there for a period of at least one month or more before rotating to the rear wheels.

- b. Where different size tires are

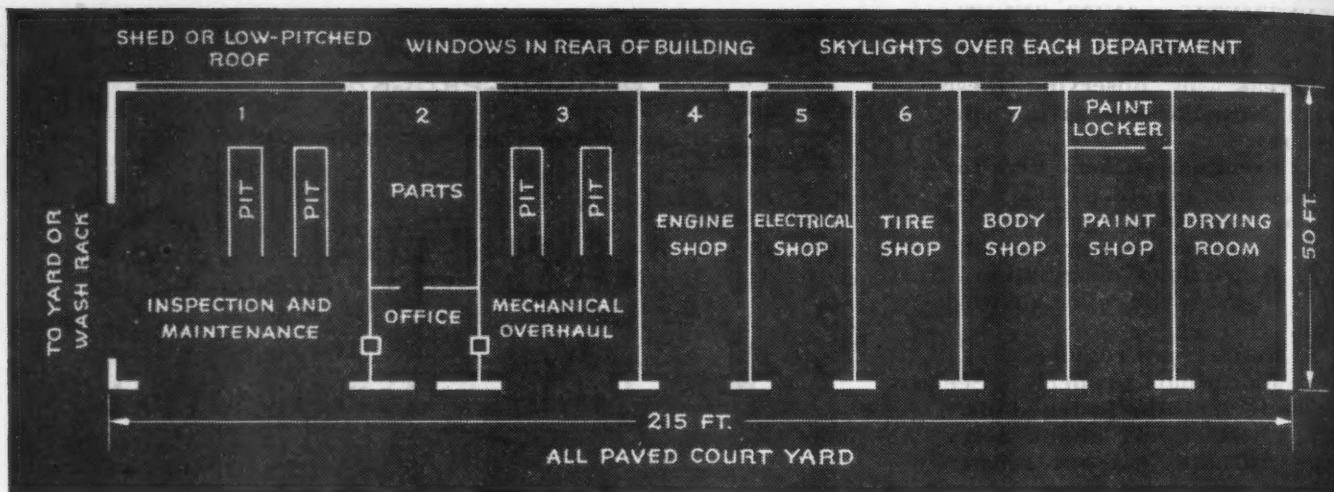
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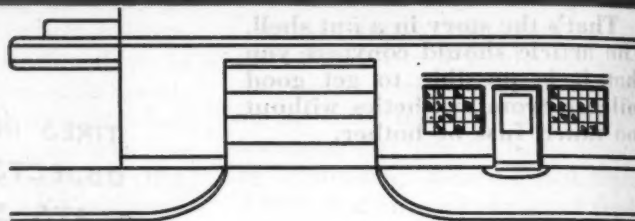
This Army picture tells its own story, especially at the bottom—flats saved 85

Break-In Synthetics Gradually for Maximum Mileage

First 30 days are critical period in life of heavy-duty synthetics. ODT offers seven suggestions for conserving and recapping



Plan 1. Scale drawing of a proposed all-in-a-row shop. Planned to accommodate 90 to 100 vehicles. Parts room and office are centrally located. Note full-width doors



PLAN Your Postwar Shop Now

Here are some concrete, workable, developed-from-experience ideas from fleet operators who plan to modernize or build new truck maintenance departments after the war

WITH AN EYE TO EFFICIENCY

Competition for postwar business will make it mandatory to keep fleet operating costs down—way down. Efficient truck maintenance will lower costs considerably. To this end foresighted fleet operators are planning better maintenance departments—intelligently laid out and specially constructed for the purpose and not just odd corners in the garage.

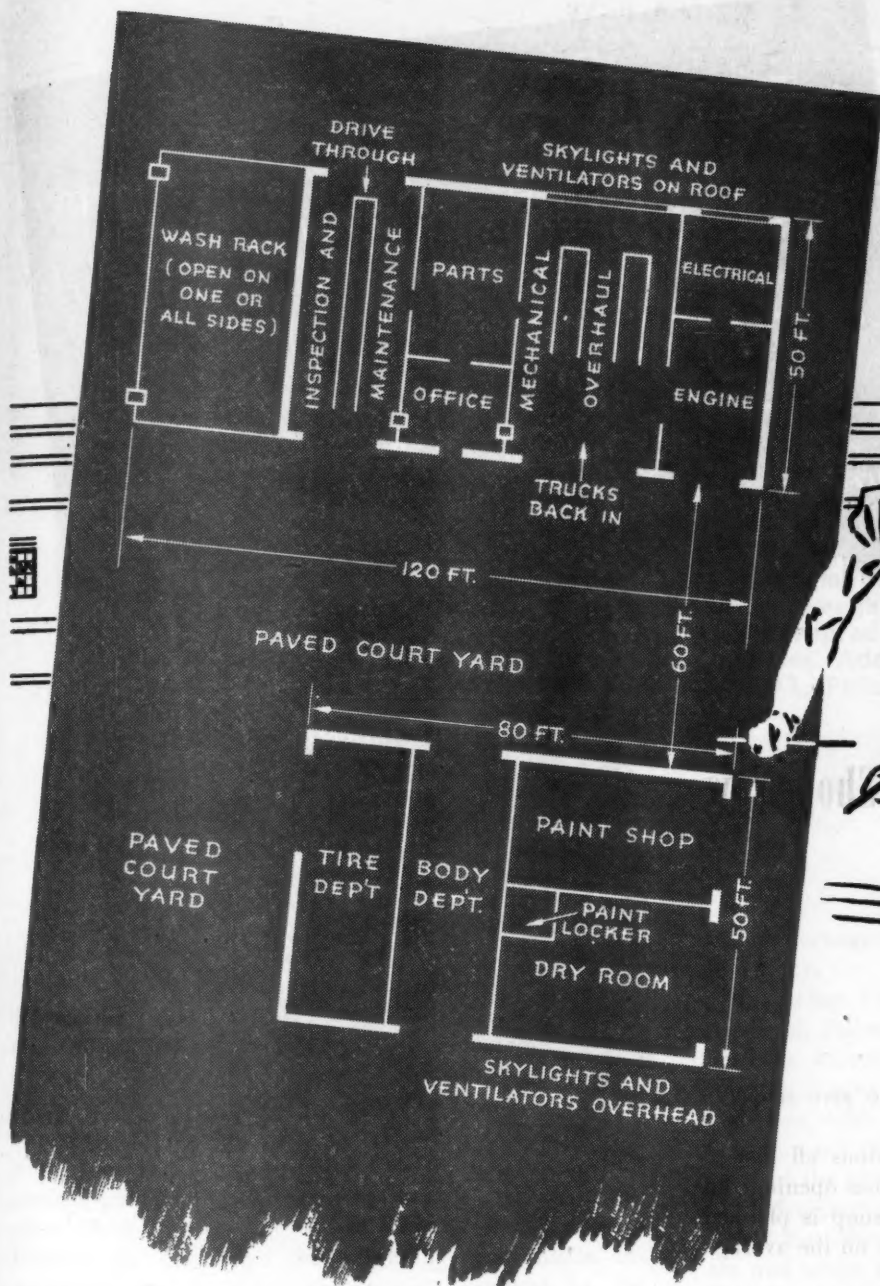
Three plans are shown in this article. They represent the thinking of West Coast fleetmen with heavy duty equipment. The assumption here is that suitable space is available, which may not be the case with fleets located in large cities.

However, there are many good ideas here. Ideas that may be adopted in whole or adapted in part to suit particular conditions—with an eye to maximum efficiency.

Now is the time to plan to get an early start when the proper time arrives and materials will be available. File this article for future reference. Other articles on shop planning will appear in future issues and a file of the entire series may prove valuable when the time comes to build.

CRITICAL shortage of new trucks and parts demands the utmost in terminal shop convenience and efficiency. And, because of the lessons fleet operators have learned during this war, the maintenance and repair shop will be the heart of the terminal of tomorrow. With that idea in mind, this writer determined to ascertain the views of all sorts of West Coast fleet owners and operators, particularly those of the over-the-road common carriers who roll the big babies so hard to obtain, as to shop layout favored.

It was gratifying to get the quick response of workable suggestions. It showed that fleetmen had concrete ideas of what the postwar modern shop should be as new facilities are built, or old ones modernized, to carry on the things learned during wartime when preventive maintenance and the spirit of "if we can't buy it, we'll make it," put the truck transport industry through for superior tonnage in spite of the hell of war, and parts



Plan 2. Tire and paint work are separated from other maintenance. Note lights, ventilators and drive through for easy access to inspection and maintenance

by JIM MEDFORD

and trained personnel shortages. Too, the mechanical ingenuity so employed got out of not-so-new equipment twice, at least, of the service-life of prewar years.

Because the western states favor the Diesel road train on the prevalent long runs, having in operation approximately 7300 such engined units, this article is intended to give preferred attention to the peculiar needs of this type of equipment as to shop requirements.

Free Movement Important

Having a permissible length up to 60 ft. and a gross vehicle weight up to 73,600 lb., the shop must be located so as to have a maximum free movement in and out of

shop of the vehicles. At the same time, the shop must be so constructed as to afford the utmost in around-the-unit access-to-work space.

In the planning of the shop, the important idea to keep in mind is that *vehicles are not always ready to leave in the order they came in*. The three sketches of fleet shop layout illustrated provide the necessary flexibility for preferred terminal location of shop due to land area available, and the number of lanes of traffic.

For this discussion of our fleet shop, let's take Plan 1 and place it in the average fleet terminal with paved court yard. This all-in-a-row spread is preferred by many fleetmen, while others take to the Plans 2 and 3. As all are approximately the same as to area and divisions of departments, the differences being in design, throughout the article, Plan 1 will be analyzed so as to avoid confusion to the reader. The alternate two plans

(TURN TO NEXT PAGE, PLEASE)

Plan 3. This plan provides essentially the same features as shown in Plan 1, but arranged on a slightly larger lot. It is an approximately square layout

PLAN

Your Postwar Shop Now

(Continued from Page 39)



are simply added for comparison and to give scope to the reader's considerate study.

In Plan 1, there are seven shop divisions all housed under one roof, each separate shop division opening full width to the paved parking yard. This shop is planned to take care of 90-100 over-the-road units on the average interstate schedule.

To get off to the right kind of a start, it is best that the shop building be designed by someone experienced in industrial construction. The building, as a whole, should be large enough to allow for at least 25 per cent fleet expansion. Truck transport horizons have been shoved a long way back since what Admiral Halsey calls ("??") made their mistake at Pearl Harbor. However, division dimensions should not be excessive; just ample for handling of the probable increase without having to overload facilities.

Excessive vacant space is always an invitation to the accumulation of odds and ends that have no business being there, forming an ever present casualty (accident or fire) hazard. Keep junk out of the working quarters always. Though safety is, of course, a necessity, it does seem that at times too much stress is placed on safeguards rather than on accident prevention by the use of common sense and appeal to the employee's intelligence and reasonable provision for his welfare.

Right here is a good place to mention proper lighting,

of which daylight is the cheapest. Good lighting of any kind, including the new fluorescent type, combined with efficient ventilation pays off in good working dividends by reason of keeping to a low percentage the usual general fatigue at the later end of a shift. Avoiding eyestrain and providing plenty of fresh air for workmen steps up their output of energy for the whole number of working hours.

It will be noted that in all our plans, doors are the full width of each shop division. This is important because it not only prevents a man from getting caught between vehicle and door jam or a driver getting a head injury, but it allows all possible daylight to enter the department. With this good daylight in mind, if it is at all possible to orient the shop so the doorways face the west, or west-south quadrant, the afternoon hours will add a surprisingly large additional number of candle-feet of illumination right on the floor where any increase in seeing-ability is always welcomed by the wearying mechanic or grease-monkey.

CASH FOR SHOP LAYOUT IDEAS

There's hardly a fleet operator who doesn't wish he had larger and more efficient truck maintenance quarters and who, with such facilities, couldn't do a better job of maintenance at a lower cost. This article, based on interviews with fleet maintenance men, has many good ideas for fleetmen who are planning to modernize or rebuild their shops and who are looking for good, efficient and workable suggestions.

COMMERCIAL CAR JOURNAL will welcome your ideas on efficient fleet shop arrangements. Do you prefer separate rooms for engine rebuilding, electrical work, PM inspections, washing, lubrication, etc., or would you rather have unpartitioned quarters? Why? How about locker rooms and lavatories? Where would you locate the parts department and superintendent's office? Why?

Write a brief letter stating what you think is the ideal shop layout for your type of operation with a rough sketch showing how you would arrange it. All ideas accepted for publication will be paid for at regular publication rates. Address your letter to Editor, COMMERCIAL CAR JOURNAL, Philadelphia 39, Pa.

Superintendent's Office

Before going into the highlights of the individual shop departments, let's get the all-important shop superintendent's office located. How do you like the idea of putting it right in the midst of things, in the front of the parts section? The service-inspection to the left, mechanical-overhaul to the right, parts department to the rear and good working daylight bringing up in front. From this vantage point, all vehicles can be checked right from the office. And by providing sliding windows on either side between the office and the adjoining departments, instructions can be given and reports received by the headman without getting off his pants (so much). That's saving on official wear and tear, appreciated by any fleetman that marathons all day long, as mechanical supers do. In addition, the stock man can check any detail with the master mind quickly and with little effort or time out of shop.

Keynote Is Accessibility

Accessibility is built into this fleet shop plan—every department is easy to get at, into, and out of. There is no driving within doors; no blocking of any department by another department working on vehicle; and in case of necessity, particularly in southern California, the high spots of any job (some low ones, too) can be done right outdoors, saving in-and-out time. It's a regular policy in most southern fleet terminals, from brake jobs to engine removals. By using mobile hoists and service stands that can be trundled about, the power unit takes a roll into the engine department leaving the chassis out

in the orange-scented sunlight (or, occasional liquid sunshine).

Beginning with Section 1, the service-inspection department, full-width doors permit two vehicles to enter or leave without interfering with each other. The pits allow for greasing and/or servicing two units simultaneously, with ample working room all around. A job that does not require pit service can be routed to the left clear of the pits for drive-in service.

In deciding on pit facilities, it's a matter of choice. But at least these are essential: adequate drainage, ample air and water supply, electric leads for portable handy lights and plug-in power tools, and the ever necessary swinging, adjustable drain pipes with large funnels, the lines leading to outside, underground tank for receiving discarded oil from crankcases. The outside tank should be provided with means of easy discharge. Low curbs around pits are desirable, but also a matter of choice.

From Section 1 to Section 2, the door may be divided with a broad shelf on the lower half for dispensing tools and parts by stockroom man. Considerable planning should go into the stockroom providing for ample bins and shelves, all properly marked for quick identification of contents. Small fittings are quickly located if placed in glass jars with screw metal tops to keep the contents free of moisture and dust. Racks should be provided for all large tools, such as torque wrenches, etc., and the tools should be wiped and returned to rack as soon as not required in shop. Piling parts on top of each other should be a positive "DON'T." Heavier parts—springs, axles, etc.—should be racked as close to floor as possible

(TURN TO PAGE 128, PLEASE)



Some mechanics judge tightness by "feel" of the wrench, others listen for "creak,"

BOTH fleet operators and spring manufacturers agree that center breakage of springs (between the U-bolts) is almost invariably due to loose U-bolts. If these U-bolts are sufficiently tight to hold the spring assembly rigidly, the center of the spring cannot bend and so cannot suffer fatigue and eventual breakage. (Worn spring pads or seats on the axle contribute to looseness and, so, are part of the same cause.)

But the \$64 question is—How tight is tight? Proper adjustment cannot be secured with an open-end wrench. A properly adjusted U-bolt should be stretched just a little, but not enough to weaken it. However, how can one get a proper adjustment and know that it is correct?

Various maintenance men employed by fleet operators were asked the question. Some said they could tell by the "feel" of the wrench. Others said they tightened the nuts until the bolts "creaked." Others just tightened.

There is no doubt that skilled mechanics, provided with proper tools and experienced in tightening U-bolts of the larger sizes, can do an acceptable job. However, a lot of strong and experienced men have been lost to the Army, and more dependable guides are necessary for newer mechanics. Many old timers, also, might welcome more specific methods to insure uniform results.

In addition to other factors there is the human element, that is, the weight and strength of the man. Also the degree to which a nut is tightened depends upon the conditions under which the mechanic is working. Obviously, a mechanic lying on his side under a car or truck will not put nearly as much "heft" on a wrench handle as the same mechanic when the vehicle is raised so that he can stand on his feet and throw his weight into the wrench handle, thus using inertia as well as strength.

One answer to the question is afforded by the Ford Motor Co. of Canada, which, as a result of its wartime experiences, considers the tightness of these U-bolts so important it has issued instructions for the use of torque wrenches to tighten nuts to definite specifications. Of course, the proper use of torque-indicating wrenches presupposes that the nuts will be a finger-free fit on lubricated bolts. Using the nuts to cut threads on rusty U-bolts will give misleading readings on the adjustment.

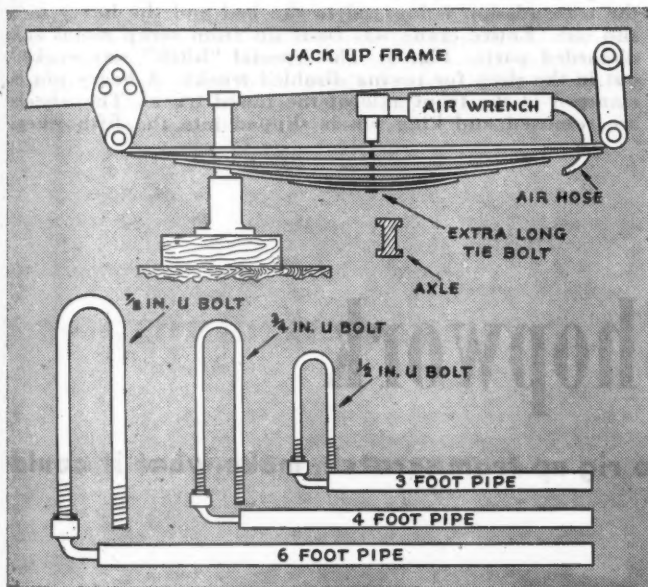
Unless the U-bolts are new, experienced fleet operators say they make a practice of running a die down over the threads. This is logical when we remember that U-bolts are tightened enough to stretch them, which of course changes pitch of the threads. Also, there is rust the threads receive from road splash and battering from stones. A little oil on the threads also will help.

While most mechanics use a heavy box socket wrench (the 12-point socket is faster in the restricted working space) for the first turning, and a piece of pipe for greater leverage on the final tightening. To get the necessary leverage, it is probably necessary when tightening nuts on the U-bolts of $\frac{1}{2}$ -in. or greater diameter, to slip a piece



How Tight is a Tight U-Bolt?

but this article gives far more dependable guides



Above, use of pneumatic wrench speeds up initial tightening of nuts. Final tightening is done by using it as ordinary wrench. Below, a convenient guide for the selection of extension handle according to size of U-bolt

of pipe over the handle. But how long is a piece of pipe? Two feet? Three feet? Four feet? Opinions differ. Experienced fleet operators suggest the following lengths: $\frac{1}{2}$ -in. U-bolt, 3-ft. pipe; $\frac{3}{4}$ -in. U-bolt, 4-ft. pipe, $\frac{7}{8}$ -in. U-bolt, 6-ft. pipe.

... AND HOW LONG IS A PIECE OF PIPE?

Most operators and manufacturers agree that center breakage of springs is almost invariably due to loose U-bolts. If the U-bolts are sufficiently tight to hold the spring assembly rigidly, the center of the spring cannot bend and so cannot suffer fatigue and eventual breakage.

There are as many methods for tightening U-bolts as there are mechanics. A common practice is the use of a piece of pipe over the handle of the wrench to get the necessary leverage—but how long is a piece of pipe? Fleet owners give suggestions in the article.

The Ford Motor Co. of Canada considers this problem so important that it has issued instructions for the use of torque wrenches to tighten U-bolts to definite foot pounds.

It is said that few mechanics can break a $\frac{7}{8}$ -in. U-bolt of fine, heat-treated alloy steel with a 6-ft. pipe extension on a wrench. When it comes to the $1\frac{1}{4}$ -in. U-bolts of heat treated steel, as used on some trailers, just remember that such bolts are not fragile and do your darndest.

There are probably as many answers to this "tightening" problem as there are mechanics. It is true that no two men will follow the same procedure in the adjustment of the tightening of U-bolts. The suggestions outlined herein are by no means exhaustive, but these guides may be of value to many shop men who are concerned about loose U-bolts or U-bolts twisted off by unwary mechanics.

The use of power-driven wrenches in factory assembly lines has interested many fleet operators in the use of power wrenches for removing and replacing springs. Of course the use of pneumatic wrenches is limited to compressed air availability, but these wrenches do speed up the spinning on or off of the nuts. They seem to save much time, even though the final tightening of the nuts is done by using the air wrench as an ordinary wrench.

A practical use for the pneumatic wrench is the repair of broken spring leaves. After the truck chassis is jacked up to take the weight off the springs, the U-bolt nuts are removed with the pneumatic wrench. When new spring leaves are replaced, an extra long tie bolt is placed through the entire group of leaves (which are bowed apart at the middle) and the nut is turned down with the pneumatic wrench. The leaves are thus compressed so that the U-bolts can be installed easily to hold the spring assembly and axle together. After the U-bolts have been installed and the nuts tightened, the long, threaded end of the tie-bolt is cut off with a bolt clipper.



Fig. 1. The shop makes its own trailer doors to replace damaged ones. The special jig shown above has been designed for this work. Doors are made with a framework of tubular steel. The outside is of sheet metal; inside is lined with plywood. Fig. 2. A 30-ton hydraulic was inverted and fastened to the frame of a press. This up-side-down hydraulic press is used for pressing gears on and off shafts, for assembling and removing bearings and for similar work

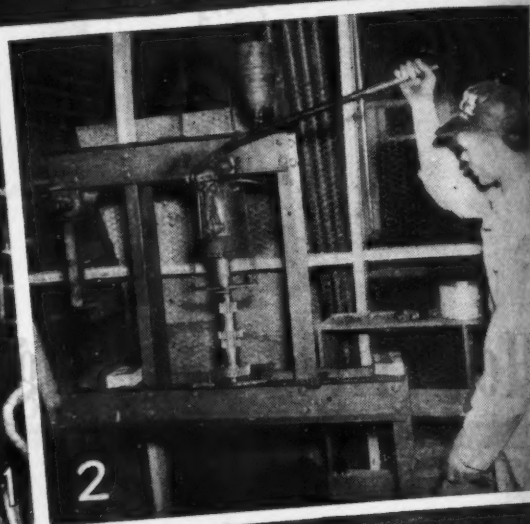


Fig. 3. A handy tool built in the shop is a portable crane for pulling transmissions. It is wheeled under the truck, the transmission is lowered to the bed and the heavy unit slid out. Entire crane was built up from scrap metal and discarded parts. Fig. 4. This special "hitch" was worked out in the shop for towing disabled trucks. A heavy pin is clamped to the front axle of the towed truck. The wheels are removed and king pin is slipped into the fifth wheel

Headwork Saves Shopwork

Pointers from a 2-yr. old fleet shop that had to rig up from scratch, make what it could



A MAINTENANCE shop built up almost from scratch, in the past two years, and now so well equipped that it can take care of a fleet of 150 to 160 trucks, tractors and trailers without sending anything out to trade shops—that is the wartime achievement of Jack Cole, Inc., progres-

sive motor freight carrier located in Birmingham, Ala.

The shop force consists of 16 men under the direction of George Rivers, shop foreman. The company has trained a number of its own men and has developed specialists so far as possible. One man does nothing but engine rebuilding, another specializes in ignition troubles, another reconditions trailers and so on.

Cole has reason to be proud of the way it has built up a self-sufficient shop and efficient maintenance organization in wartime. The shop is supported by its own parts department which carries a stock of some \$10,000 to \$15,000 worth of parts, and rebuilds its own starters,

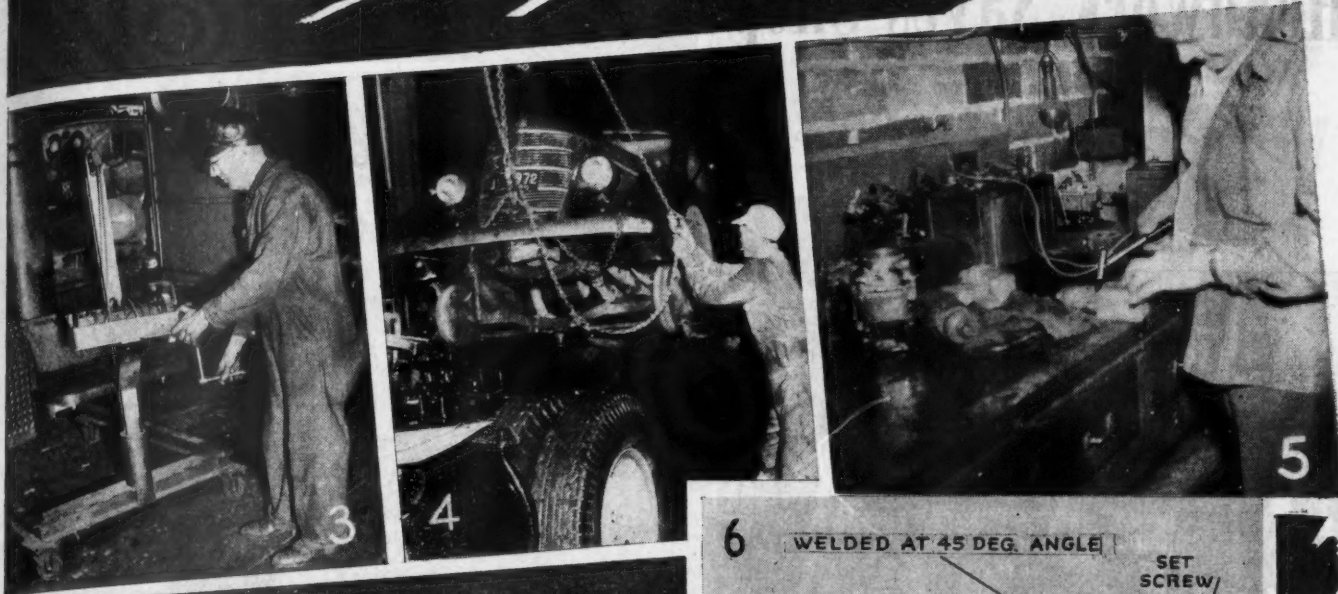
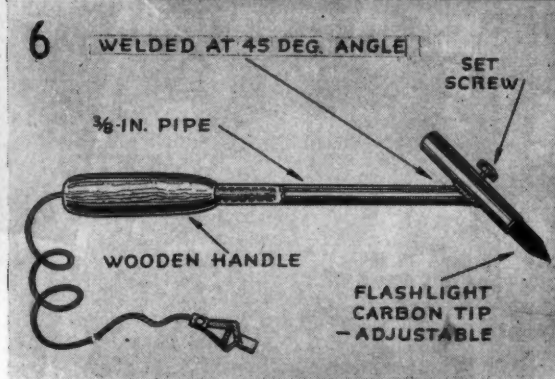


Fig. 5. A time-saver developed in the shop is this soldering iron made from two pieces of $\frac{3}{8}$ -in. pipe welded together at an angle. A carbon from a flashlight battery is pointed and inserted into the head. It can be adjusted at the set-screw. A wire is connected to the head through the handle. Current is supplied by a 6-volt battery. This device is handy in soldering wires in a generator or starter. Drawing in Fig. 6 shows details of construction. It is easy to make



by **GEORGE H. WATSON**

not buy and train own mechanics

generators, fuel pumps, and carburetors. Such work formerly cost the concern \$400 to \$500 a month when sent out to a trade shop. Now these units are rebuilt in the Cole shop for \$100 a month, representing an enormous saving.

As for overall maintenance of trucks and tractors, the shop is equipped to take care of everything from the bumper to the fifth wheel. Engines, transmissions, rear ends, drive shafts and other assemblies are reconditioned. Previously most of these parts were discarded. Even trailer bodies are rebuilt. Light bodies for pick-up trucks

(TURN TO NEXT PAGE, PLEASE)

... AND HEADWORK CUTS COSTS, TOO

When Jack Cole, Inc., motor freight carrier of Birmingham, Ala., began to feel the effect of shortages restrictions and delays through the shops that did that fleet operator's truck maintenance work, it decided to do something about it. Things began to pop. A Cole repair shop was started despite war difficulties. Cole-trained mechanics began to service their 150 trucks from bumper to tail light. Results were startling—repair bills were slashed, tie-ups became rare.

How the problems of equipping the shop and stocking replacement parts were overcome is explained in the article. It's a story of ingenious, aggressive headwork and a lot of initiative. When certain tools were unobtainable, they built their own. When time-consuming jobs kept trucks too long in the shops, labor-saving devices were constructed. Some are illustrated on these pages.

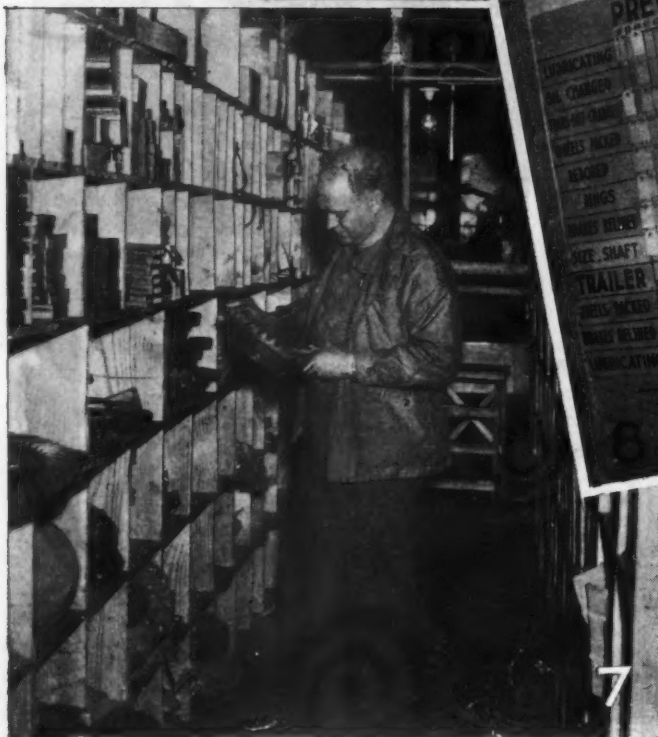
Did it pay? Consider Fig. 1 for example. This special jig for building trailer doors has enabled the shop to rebuild its own for \$35. The cost of new doors would run \$85. It did pay.

The savings on smaller work have been equally impressive. The rebuilding of carburetors, generators, etc., formerly ran as high as \$500 per month when farmed out to trade shops. Cole mechanics now do the work for \$100. That's cutting costs!

Jack Cole's story should be an inspiration to other fleet owners beset by wartime maintenance problems. The hints and practices outlined could be used profitably in any fleet shop.

Headwork Saves Shopwork

(Continued from Page 45)



are built in their entirety, including painting and lettering.

Cracked blocks are repaired, new sleeves installed and the unit put back in service. Cost of this repair service is estimated at \$35, compared to a cost of \$230 for a new block.

Even damaged rims are rebuilt. A jig for a lathe has been designed to hold these rims while being machined. It is estimated that it costs \$3 to \$4 to build up and true a damaged rim, whereas a new one would cost several times this much. A jig has also been devised to hold camshafts while being machined. Thus, reconditioning is made easier.

Unable to buy a wheel jack from the factory, the shop built its own, using discarded bearings and other materials at a cost of only \$2. It is mounted on rollers, and so arranged that one man can remove a wheel from a tractor by slipping the portable jack under the wheel and moving it outward and off. The one man can put the wheel back, using the same device. Two or more men would be required without this equipment, as the wheel, hub and drum on some of the power vehicles weigh 550 lb.

Numerous other time and labor-saving devices are used in the shop. One of these is shown in Fig. 5 and 6. It is



Fig. 7. Interior of parts room. Parts are arranged neatly in bins. A careful watch is kept on the stock and orders placed in time to keep adequate supplies on hand. Fig. 8. A record of the work performed on each truck is kept on this large wall chart. It thus becomes a handy reference when service information is desired. Fig. 9. View of the inside of the shop. Notice the block bench made of 2 x 4's.

a soldering iron made from a piece of $\frac{3}{8}$ -in. pipe. A short piece of the same size pipe is welded to the shank at a 45 deg. angle. Into this head is fitted a pointed carbon from a flashlight battery. A set screw in the piece holds the carbon in place and enables the mechanic to adjust it as the occasion demands. A hole is bored through this for a wire which is soldered to the head. Current is obtained from an ordinary 6-volt battery. One advantage to this device is the fact that it heats up instantly and is ready for a small job such as soldering wires in a generator or starter. Since the shop has its own battery chargers, the cost is negligible.

A handy tool built in the shop, Fig. 3, is a portable crane for pulling transmissions. The device is wheeled under the truck, the transmission loosened and let down on the bed of the crane. The cable is unhooked and the heavy unit is slid out.

Still another device, Fig. 2, is an up-side-down hydrau-

INCENTIVE PAY

Equalizes Driver Earnings

Premium plan for short runs increases pay checks of drivers and brings them in line with differential accorded the long-haul drivers by union contracts

by R. F. JONES

President & General Manager,
U. S. Truck Co., Inc., Detroit





R. F. Jones

THE payroll is the largest single expense in the trucking industry. It ranges from 50 to 70 per cent of the revenue and is the chief cause of the high operating ratio under which most common carriers now are working.

Naturally, the first thought of the average fleet operator is, "How can I keep this high pay expense down?" Too frequently, he loses sight of the fact that the rates of pay of drivers, although having improved steadily over the past few years, still are in direct and stiff competition with the high hourly rates prevailing in the large war production plants.

Of course, there is a basic difference between the outdoor job of the truck driver, with its irregular hours and exposure to all kinds of weather and driving conditions, and that of the factory worker who works regular shifts in well heated, well lighted buildings. Yet, it has been interesting to watch many drivers who left a job "behind the wheel" to take a higher paying factory job return to driving, frequently admitting they could not stand the confinement of 10 to 12 hours indoors.

The U. S. Truck Co., has realized the need for giving its drivers all possible encouragement to stick to their job. In view of the competition of higher hourly rates in factories and the fact that time-and-a-half starts after 48 hours a week for interstate carriers instead of after 40 hours as in war plants, the company has developed an incentive pay plan on its highway runs which provides a fairly equal weekly pay check for all of its drivers. Because of the varying distances between terminals and the differences in methods of pay provided in the union contract, drivers on long hauls would earn considerably more than those on short runs if it were not for the system of setting up extra hours or premium pay for short runs to equalize the earnings. Under our present setup, our highway drivers earn an average of \$77 per week, which is \$7 to \$10 per week above the union scale.

Round trips from Detroit to the major industrial cen-

ters of Lansing, Jackson, and Flint normally earn a driver \$10 a day, including time spent in terminals, at pick-ups, deliveries, etc. The company endeavors, whenever possible, to send him from one of these towns to another outlying terminal before returning him home. In this way, the extra leg in his round trip increases his daily pay from \$10 to about \$14. At the same time, the company achieves a higher percentage of full loads because there frequently is only a one-way freight movement between these outlying points.

As for the premium, or incentive, pay, the following example shows how it works: Round trips from Detroit to

Port Huron or Toledo can be made in 5 hours, and drivers are assigned to make two round trips a night to utilize fully their maximum of 10 driving hours daily. At straight time under the union contract this would net them \$9.70. (Union scales is 97c. an hour.) However, in order to encourage the driver to make the

first trip sufficiently fast so that he will have enough time left for the second trip, he is given a 6-hour guarantee for each trip, amounting to \$5.82, regardless of whether he completes it in less than 6 hours. In this way, he receives premium pay for moving the freight faster, and delays and stalling on the road are discouraged. Thus, instead of receiving \$9.70 for the day, he earns \$11.64 driving pay. In addition, he gets paid for time spent waiting in terminals, servicing his truck, and hooking up trailers, so that his total pay averages \$15.00.

Round trips from Detroit to nearby cities like Pontiac and Ypsilanti, representing a round trip distance of about 50 miles, can be made three times during a 10-hour day if the driver loses no time enroute or at terminals. Although there is a minimum daily guarantee of 6 hours work per day (\$5.82) provided in the union contract for these short runs, drivers are assigned to three round trips a night with the understanding that they will receive the 6-hour minimum for the first trip only. Thus he will endeavor to make the first trip in about 3 hours to save enough time (about an hour) so that he can make two more trips the same night.

(TURN TO PAGE 146, PLEASE)

U. S. TRUCK STATISTICS

Equipment—6 trucks, 123 tractors,
206 semi-trailers, 188 four-wheel trailers
Personnel—120 drivers, 36 dock helpers
(including 25 casuals come and go), 38
mechanics, greasers, body-builders, etc.
Annual mileage—2,470,600
Annual tonnage (last year)—331,000

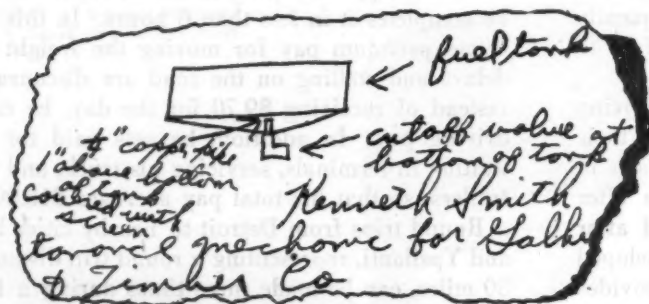
PREMIUM PLAN JUMPS TONNAGE HAULED WITH LESS MANPOWER

Operating in a highly industrialized section studded with war plants this fleet had to find some way to hold on to drivers in the face of war-inflated factory wages and an 8-hour overtime advantage. It did so with a system of pre-

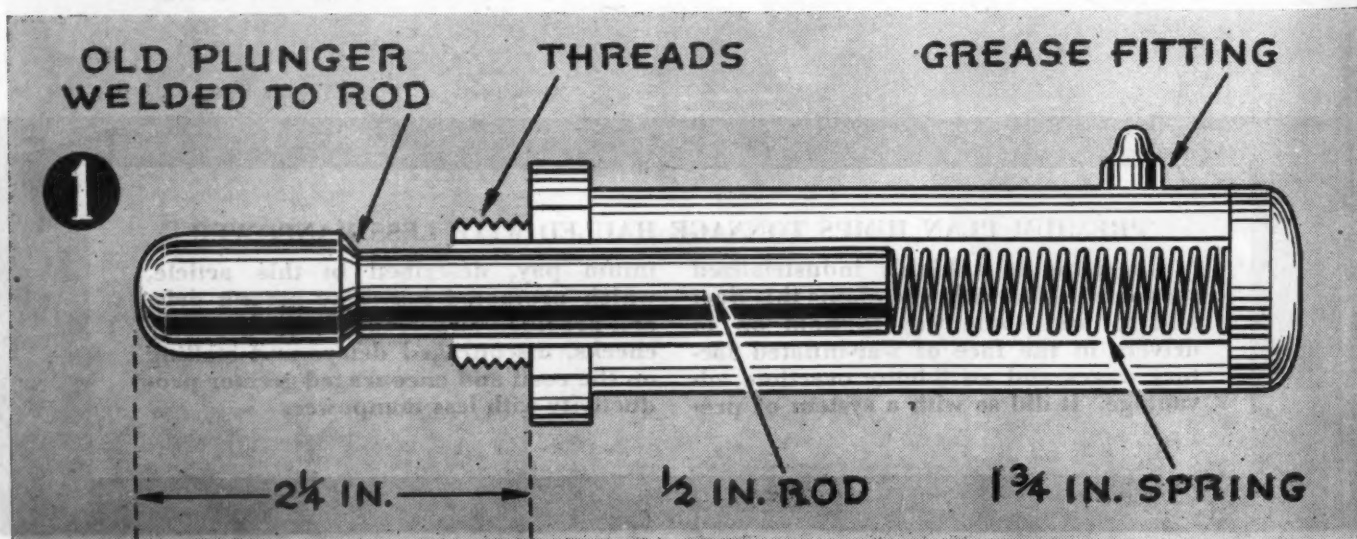
mium pay, described in this article, which promoted harmony among drivers, provided larger, more equalized pay checks, discouraged delays and stalling on the road and encouraged greater productivity with less manpower.

SHOP & SALVAGE HINTS

Commercial Car Journal will pay \$5 for acceptable shop hints and \$5 for parts salvage tips. A snapshot or a rough drawing with a simple explanation is all that is needed. CCJ will polish them for publication. Send one in today! Illustrated below is a typical contribution—just a rough sketch and a brief statement of the prob-



lem and its solution. See how it looks in Fig. 8. This brought Kenneth Smith \$5. There are other \$5 bills waiting for your contribution. Don't underestimate your ideas. Let the editor judge.



1. Shifter Fork Lock

by Walter O. Martin
Elk Refining Co., Charleston, W. Va.

I have had considerable trouble with the shift fork plunger on the Eaton two-speed axle (38C). I know of others who have had the same trouble. The hole that the plunger works in in the carrier wears egg-shape so that the retaining plunger will not hold the gear in mesh. The axle jumps out of gear continuously.

I have modified the assembly to correct this condition and it works perfectly. Any mechanic with a lathe can make this device.

The housing is turned out of a $1\frac{1}{4}$ x 6-in. steel shaft. A $\frac{1}{2}$ -in. hole is drilled in it to a depth of 4 in. The drilled end is then threaded to fit the threaded hole in the carrier. A hole is drilled 1 in. from the top end for a grease fitting. The old plunger is then welded to a $\frac{1}{2}$ -in. rod. This piece should be $3\frac{1}{2}$ in. overall length. The original spring is placed in the housing. The plunger mechanism is then inserted so that $2\frac{1}{4}$ in. sticks out from the housing.

When this device is screwed into the original position of the plunger and spring, it will do the work of the original part. The assembly does not have to be removed to make this modification.

2. Spindle Repair

by G. W. Layne
Brooks Trans. Co., Richmond, Va.

I repair worn spindle pin holes in front axles in a way, I believe, is different, and in some respects easier, than the conventional method of installing oversize pins.

I use a No. 24 $\frac{1}{8}$ -in. electric rod and grind off the flux. I set the welder at 60 amps. and move the rod up and down in the hole similar to the procedure used in repairing cylinder walls. This scraping motion deposits metal evenly all around the spindle hole without arcing.

After welding the metal over the surface, I oil the hole and drive the old pin through several times. This insures a tight fit of the new pin.

This method is much quicker than drilling out the holes and machining them to fit new pins. The cost is much less, and the repair seems to be permanent in the jobs I have done.

3. Drain Plug Modification

by W. M. Hell
Gulf Refining Co., Louisville, Ky.

Many crankcases and oil pans have such soft drain plugs that the shoulders soon become rounded so that it takes a pipe wrench and a lot of patience to remove them.

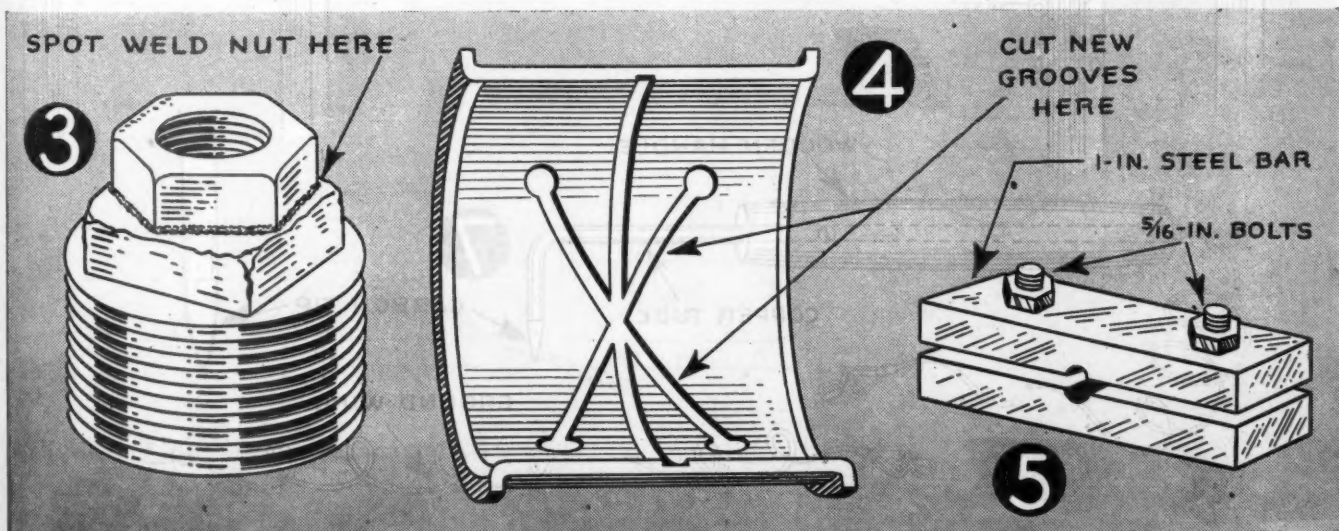
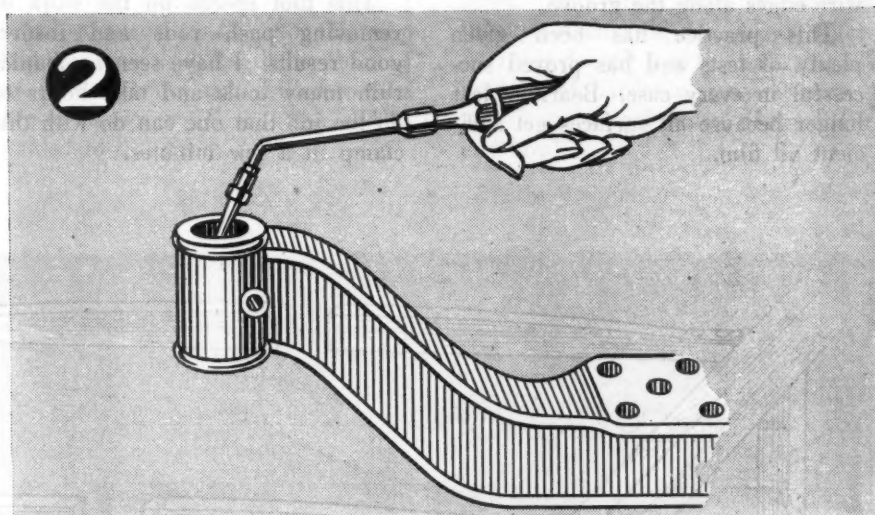
Drain plugs so damaged can be salvaged by spot welding an SAE nut of the desired size to the surface of the plug. Then a regular box socket or the handiest wrench will fit snugly and save time in the draining of these crankcases.

4. Salvaging Ford Bearings

by W. M. Hell
Gulf Refining Co., Louisville, Ky.

Ford connecting rod bearings can be made to stand more hard service by this modification. The oil will be distributed more evenly if oil groove holes are cut from the center groove over to the holes that feed the outside or connecting rod side of bearing.

(TURN TO NEXT PAGE, PLEASE)





SHOP & SALVAGE HINTS

(CONTINUED FROM PAGE 51)

These grooves should be cut at an angle as shown in the diagram. It can be done easily with a diamond point chisel. Be sure to remove all wire edges along the groove.

This practice has been given plenty of tests and has proved successful in every case. Bearings last longer because all surfaces get sufficient oil film.

5. Push Rod Puller

by Frank J. Zeravsky
International Harvester Co.
Allentown, Pa.

Here is a tool I made for removing fuel pump push rods on International F A B diesel engines. These rods sometimes stick fast and are very hard to remove. Only about 1 in. of the rod sticks out above the block at the fuel pump recess so that a flaving tool is inadequate.

This puller is made from two pieces of steel $\frac{1}{2}$ in. square and 4 in. long. Two $\frac{5}{16}$ -in. holes are drilled 1 in. from the center of both pieces. The two pieces are then bolted together with $\frac{5}{16}$ -in. bolts and a $\frac{5}{16}$ -in. hole is drilled through the center edge of the two pieces.

When the bolts are loosened, the tool is slipped over the push rod end and clamped tight. A pry-bar is placed under the tool so that it can be wedged out. New bites can be secured from time to time by slipping the tool down on the push rod.

This tool speeds up the work of removing push rods and insures good results. I have seen mechanics ruin many tools and take hours to do the job that one can do with this clamp in a few minutes.

6. Hinged Cross Bows

by Edwin M. Curtis
Active Motor Service Co., Chicago, Ill.

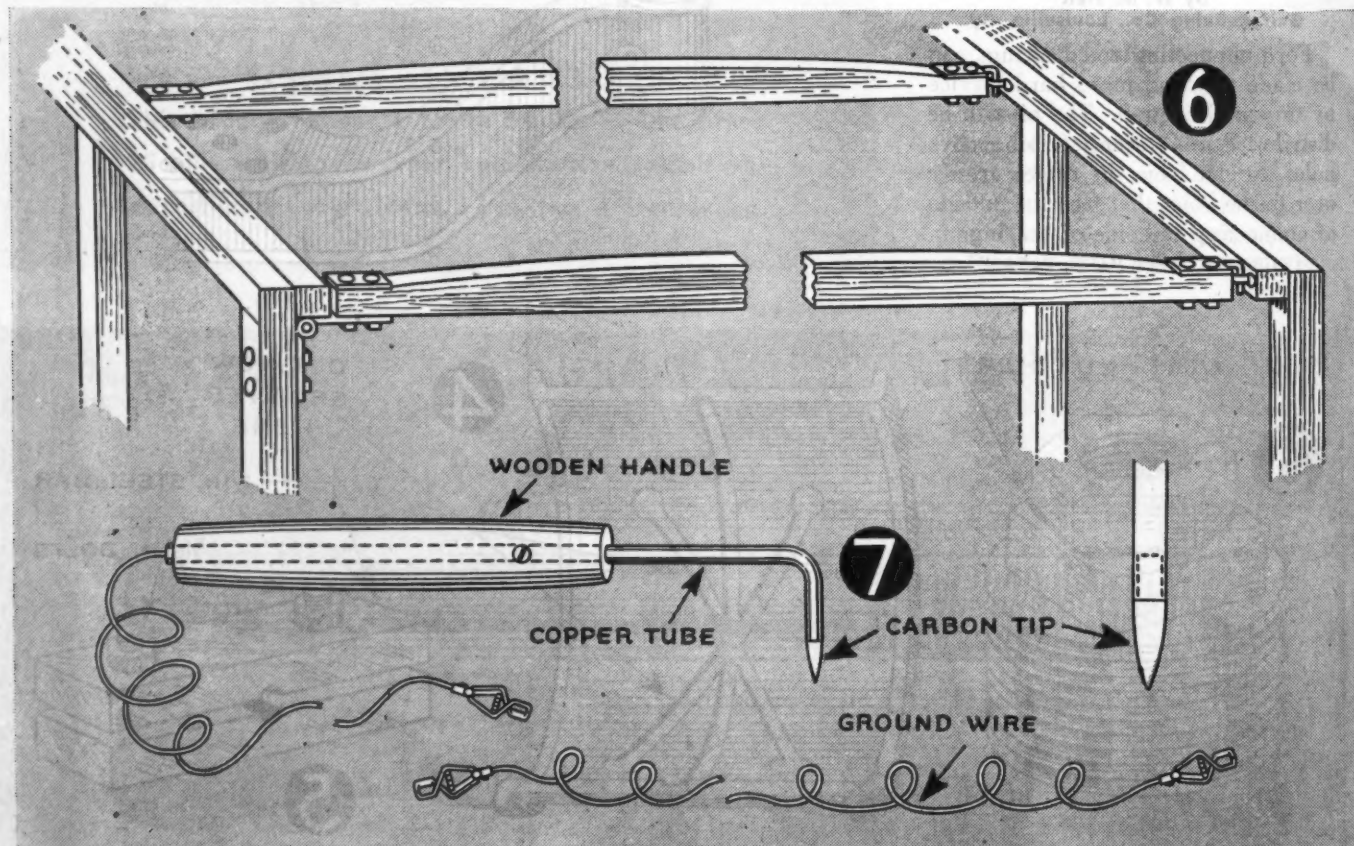
Our drivers lose tarpaulin cross bows off the top of our truck bodies faster than we can have them made. The cost of these replacements amounts to quite a sum over a period of months so we have designed a new type bow. It is hinged at one end so that it can be let down and out of the way yet cannot be removed from the truck.

Since dimensions will conform to various sizes of bodies, they will not be given. The principle of construction, however, can be seen in the accompanying diagram. The hinged end of the bow is mounted to the side piece. The other end of the bow has a flat hook so that it can be lifted up and fastened to a hasp in the side piece on the other side.

7. Home-Made Solder Iron

by George E. Millot, Garage Foreman
General Baking Co., Springfield, Mass.

I have made a very handy soldering iron for soldering wires in tight places such as in the generator or starter. It is made from a 12-in. length of $\frac{3}{8}$ -in. copper tubing bent



at right angles 2 in. from one end. A short piece of hammer handle or similar wooden stock is used for the handle. A hole is drilled through it and the tubing slipped through. A small pin or rivet will hold the handle to the copper tube.

A carbon from an old flash-light battery is given the desired point and ground so that it will fit into the short end of the tube. This becomes the tip.

Now a wire is soldered to the long end of the tube and a clip fastened to the other end so that it can be hooked up easily. Another covered wire is used for the ground. A 6-volt battery provides the current.

8. Gas Line Modification

by Kenneth Smith
Galbreath Tie & Timber Co., South Fork

On the late Ford V8 trucks there is a crease in the bottom of the fuel tank with the outlet and the cut-off valve at the extreme bottom of this depression. Water or dirt collecting in the bottom of the tank goes directly into the cut-off outlet and plugs up the line at this bend.

Granted that the manufacturer designed the sump for a definite purpose, we still find a continual source

of trouble at this point. To remedy it we removed the cut-out, drilled the hole in the cutout so that it would accommodate a 1/4-in. copper tube. The tube is 2 in. long so that when the cut-out is positioned, the outlet extends out of the sediment area. A piece of screen from an old fuel pump can be soldered over the hole in the tube to keep dirt out.

While periodical inspection and cleaning of this piece is recommended, it is still better than having the line plug up while on the road.

9. Core Plug Tool

by C. L. Todd, Fleet Superintendent
Sanitary Baking Co., Clarksburg, W. Va.

A handy tool for replacing core (sometimes called expansion) plugs in Chevrolet engines has been made in our shops. With this tool the plugs can be replaced in 15 minutes whereas it is nearly impossible in some cases to get into this spot.

The core plugs on Chevrolet engines are the cup-type, so adapt themselves readily to the tool. I made a piece to fit into this cup from a 1 1/4-in. shaft. It is about 3 in. long with one end drilled to take a rod 3/4 in. x 18 in. The rod is welded to this head.

Now when replacing core plugs, the head is fitted into the plug and inserted in through the louvre or fender to the block. A few taps with the hammer will seat it properly.

While the operation is not often necessary, the time saved by this tool when plugs are replaced will justify its existence.

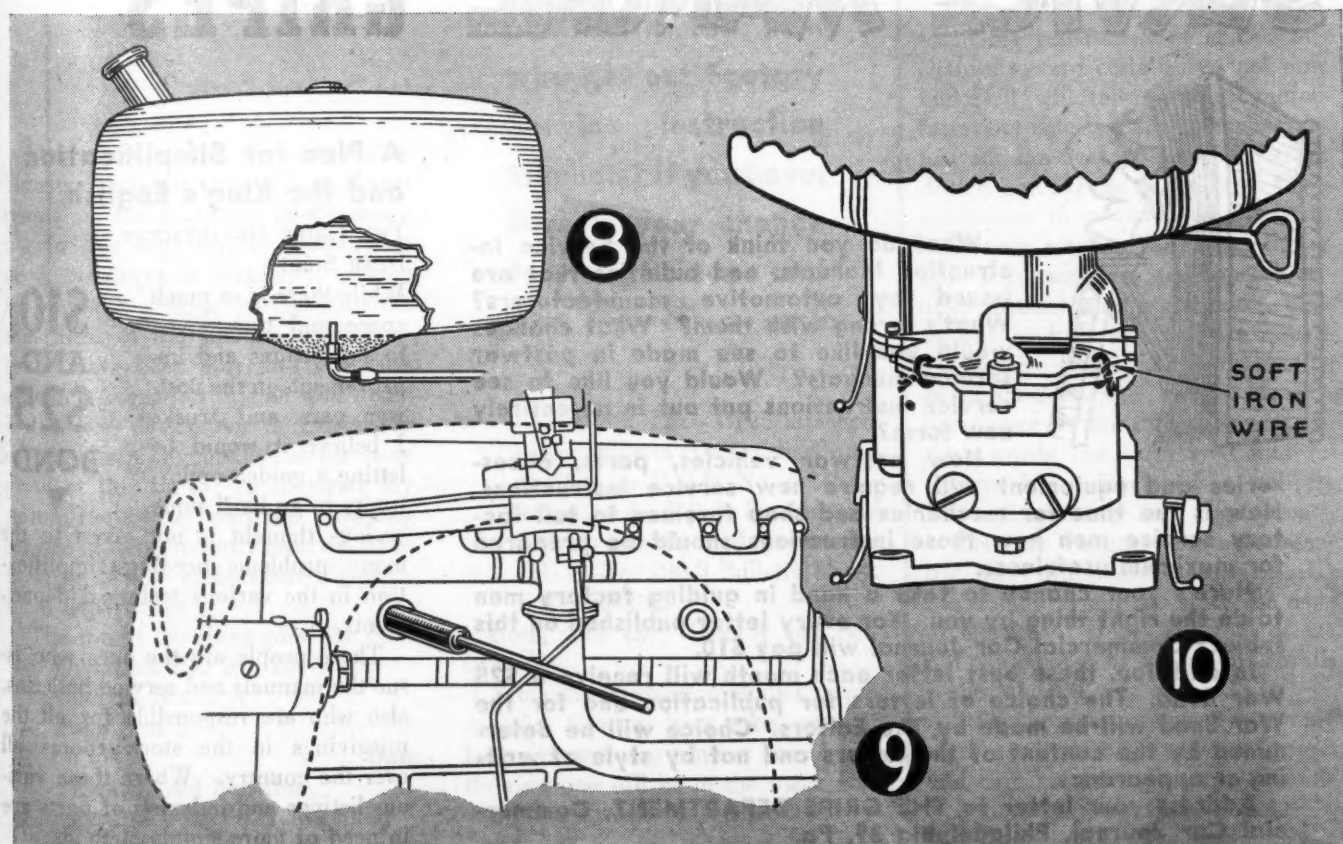
10. Carburetor Repair

by George Gahagan
Continental Baking Co., Jamaica, N. Y.

In our fleet we have experienced carburetor troubles due to warped covers. The covers on the down-draft types warp from heat and from the vibration of the engine. The air-strainer is heavy, and in many cases there are insufficient screws in the covers to hold it securely to the body.

We have salvaged these hard-to-get and expensive parts by the following simple method I devised. Small holes are drilled diagonally through the cover at the edge near the points of distortion and through the gasket bowl. Soft iron wire is inserted through each hole and drawn tight.

If this doesn't stop the leak, a small amount of hardening gasket cement will insure a perfect seal of the cover and bowl.



THE

GRIPE

DEPARTMENT



COMMERCIAL CAR JOURNAL WILL

For Mechanics, Foremen, Superintendents, Supervisors — in fact all connected with the maintenance and operation of fleets, who want designers to give more thought to making post-war trucks easier to maintain and repair and less costly to run

"The Gripe Department" invites fleet mechanics and all others connected with fleet maintenance and fleet operation to send in their gripes. For every griping letter published in this department, COMMERCIAL CAR JOURNAL will pay \$10. In addition, the best letter each month will receive

a \$25 War Bond. The choice of letters for publication and for the War Bond will be made by the Editors of COMMERCIAL CAR JOURNAL. Their disposition of letters will be final. Choice will be determined by the content of the letters and not by style of writing or appearance.

Address your letter to **THE GRIPE DEPARTMENT, COMMERCIAL CAR JOURNAL, PHILADELPHIA 39, PA.**

Tubing Fittings and Hood Hinges

THE GRIPE DEPARTMENT,
DEAR SIRs:

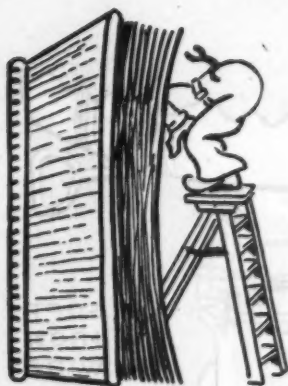
I am writing to you about two of my pet gripes.

\$10

My first gripe concerns the fittings for copper tubing, such as airlines, gas lines, water lines, etc. The various designers seem to strive to make their fittings just a little different from the other; either the size or thread is different. It would save mechanics a lot of headaches if they would get together and have a standard size and thread. This also would help service stations and fleet owners, as they could carry

SERVICE MANUAL

GRIPEs



What do you think of the Service Instruction Manuals, and bulletins that are issued by automotive manufacturers? What's wrong with them? What changes would you like to see made in postwar service manuals? Would you like to see service instructions put out in an entirely new form?

New postwar vehicles, parts, accessories and equipment will require new service instructions. Now is the time for mechanics and shop foremen to tell factory service men how those instructions should be prepared for maximum usefulness.

Here's your chance to take a hand in guiding factory men to do the right thing by you. For every letter published on this subject Commercial Car Journal will pay \$10.

In addition, these best letter each month will receive a \$25 War Bond. The choice of letters for publication and for the War Bond will be made by The Editors. Choice will be determined by the content of the letters and not by style of writing or appearance.

Address your letter to **THE GRIPE DEPARTMENT, Commercial Car Journal, Philadelphia 39, Pa.**

A Plea for Simplification and the King's English

THE GRIPE DEPARTMENT,
DEAR SIRs:

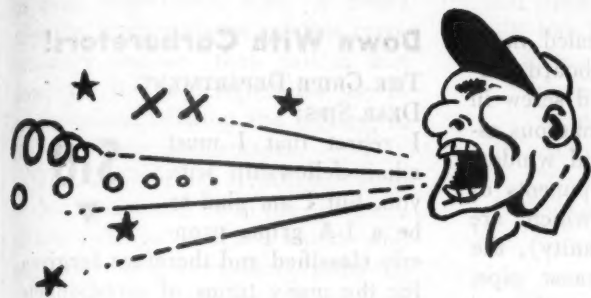
While there is so much space and time given to suggestions and improvements in the postwar cars and trucks I believe it would be letting a golden opportunity to go by if some serious thought is not given to the many problems needing simplification in the various technical departments.

**\$10
AND
\$25
BOND**

These people are the ones who issue the manuals and service bulletins, also who are responsible for all the misgivings in the stock rooms all over the country. Where these various listings and indexing of parts are in need of more simple methods.

PAY **\$10** FOR EVERY GRIPE PUBLISHED AND each month one of the Gripes will receive an extra award of a **\$25**

WAR BOND



a smaller amount of a standard size fittings, and they would cover everything.

My second gripe is the way hoods are made for trucks. When they are laid back the hinges get bent and twisted. In checking the oil, drivers let the hood fall back. In a short time it breaks out of the ends after which it is difficult to keep it straight. It seems to me they could be designed to overcome these troubles.

JOHN B. TIBBETTS,
Mechanic,
First National Stores,
Somerville, Mass.

Tickets to the Happy House

THE GRIPE DEPARTMENT,

DEAR SIR:

If all the energy expended by mechanics on gripes about auto design was harnessed in one unit, it would haul 10,000 tons from here to there.

And these gripes are legitimate, let us not forget. Our skilled mechanics waste untold exertion in fiddling with hidden bolts, with assemblies which sur-

**\$10
AND
\$25
BOND**

pass the most exasperating Chinese puzzles, and often have to almost wreck a good car to replace a screw. Were this not so, they could devote their high skill to actual problems in repair, get the car rolling on the road.

The origin of an overwhelming majority of the mechanics' troubles lies in the lap of the auto designer. The skilled mechanic, exasperated to the limit, often feels that auto designers have plotted, in deep secret, to make repair jobs as irksome and difficult as possible. And this gives many makes of cars a handsome blackeye, with rainbow-hued decorations. Among scores of mechanics of my acquaintance, there are many who will not lay a finger on certain cars, just due to the fact that repair jobs on these need no high application of skill, but rather, a ouija board, a pair of binoculars and a search warrant from the sheriff's office.

In many instances, this understandable resentment of skilled mechanics toward certain cars not only bodes ill will toward the manufacturer, but entails a tangible monetary loss for the fleet operator, the truck dealer, and for the repair shop. Communicated to potential and existent customers, whether for service or for new purchases this resentment nurtures distrust and vague fears. Customers back away from these cars (or service rendered by these) like as if someone had handed them a horse shoe wreath of poison oak. In other words, the starry-eyed auto designers have developed a delicate finesse for cutting their own throats.

The auto designer is a most essential and indispensable animal. He has done a grand job since the days of Duryea of Doble and that of the old work horse of the gasoline trails—the Model T.

Still, his most roseate dreams only work out in practice when the trucks and cars are rolling on the concrete

(TURN TO NEXT PAGE, PLEASE)

**Have you a bone to
pick with the men
who get out Factory
Service Instruction
Manuals? If you have,
here is your chance
to pick the bone and
pick up some cash**

Charts No. T.S.—C125 attached to this bulletin replace chart now attached to D.U.F. No. 6-2 Bulletin No. 4 (Date) Further this bulletin cancels and supersedes D.U.F. No. 200-9 Bulletin No. 2 E.N.O. 94338.

Note, they say "Destroy old bulletins."

From the illustration alone I would say that this has been taken care of long ago and you can bet your boots the new one will be in the waste basket

(TURN TO NEXT PAGE, PLEASE)

The present lull in the automotive industry certainly presents an opportune time for a general house cleaning in this department. The crying need, of course, is simplicity. I note in previous articles of the JOURNAL that most of the changes needed already have been ably and well suggested. Accepting this as well done, I think an illustration or exposition of what is going on would do more good at this time. To illustrate my point, I quote in part the following service bulletin recently received from a large truck manufacturer's technical department.

The top of the sheet goes like this:

Div. Unit File No. 200-9

Bulletin No. 2 A

Page 2 of 2

Date

*Destroy old bulletins

Then goes on something like this:

THE GRIPE DEPARTMENT . . . (Continued from Page 55)

and the acute ears in the truck sales office hear that cheery ring of the cash register. A Chinese puzzle may be a grand article of entertainment but it is rolling wheels and loads that puts the bread and butter on the checkered table cloth.

Looking at the auto engine, the designer usually sees it out on the open, on the table or encompassed only in the meager skeleton of the test block. Add this and change that—which is the way of all progress—but subsequently stuffing the apple of his eye into the strictured limits of a pre-designed and pre-shaped encasement of tinware and crow-barring it into a pre-designed frame with delicate kangaroo curves—this positively is *no business!*

Along with his brain child, he has inadvertently designed a black eye for his manufacturer, a headache for ultimate owners and operators, and a new and forceful sulphur-tainted fog of cuss words for the skilled mechanic bent on performing a good job but hampered and exasperated by fiddling and dilly-dallying with strange nic-nacs and novelties.

Every owner, every operator, every mechanic and every driver is most

acutely aware of the concealed, mad-house assemblies of dashboard wiring—the secretive bolt and screw in scores of places, the cantankerous assemblies of door latch and window mechanisms, the coy components of hydraulic brakes over which are sweated blood (and profanity), the sullen and stubborn exhaust pipe, the self-effacing fuel pump. Among scores of other tickets to the Happy House let us not forget calling in a detective, the coroner, a submarine with periscope, et al., to get an engine off its downy bed in order to probe its innards.

This, then, is the gripe of all gripes. Mr. Designer, give us cars that work, that can be worked on and sent out to do useful work.

Mere beauty hauls no loads, makes no money, makes no profits. On the contrary, it makes industrial black eyes, makes gray hairs in ever increasing swatches and diminishes the chances of our mechanics for their harp and halo.

Is my halo pinching?

JACK BRONTE,
The Covey Co.,
Grass Valley, Cal.

Down With Carburetors!

THE GRIPE DEPARTMENT,
DEAR SIR:

I regret that I must admit fellowship with you, but I am glad to be a 1-A gripe, properly classified and therefore forgiven for the many terms of questionable affection which I have hurled at the several fueling systems with which I have come in contact. Much breath could be wasted in discussing carburetion but to my way of thinking the method of carburetion is the same old method which has undergone many changes but it is still carburetion, a potential fuel waster.

Automotive "Giants" have added many gadgets, twists and much useless advice regarding the best way to aid the "Old" carburetor in fulfilling its real purpose. In spite of these so-called improvements the carburetor has been the cause of most motor failures, much embarrassment and in some cases, death. My interests center around back pressure propulsion and I don't mean the multiple shotgun type. I love to gripe on this subject because our gov-

\$10
▼

SERVICE MANUAL GRIPES . .

(continued from page 55)

ket very, very soon. Very little good is gotten out of a mystery of this sort and, until more simple English is used, it will continue to be more or less a waste of time and material.

Why not start all over or from scratch begin something like this:

Bulletin	Year	Subject
No. 1	1945	Engine

Then follow with a clear explanation of subject, also furnish a suitable file (indexed) each year if necessary (according to volume).

Now, let's go up town and buy a part. After the stockroom man knows what you want he begins looking for a number. He goes through

one book and finds a sad looking picture of it along with a number. Then he gets another book because this number has been changed. This book refers him to a master parts list. The master parts list puts him on the right track. Armed with the latest number he goes through an index to try to locate the bin the part should be in. If he finds it, you are lucky.

To top off all this, he has to go through a gang of price lists, master parts lists, discount reference sheets and what not, before he knows how much to charge you.

Needless to say the automobile or truck has waited for you to get back.

Most of the morning has been spent getting the part. By the time this part is put in some hiding place about the car, the day is gone, or should I say wasted?

This, too, looks like a technical department's spoiled child.

Now for a remedy. I suggest they contact the various dealers' stockmen who will very gladly help them work out a more simple system of parts, filing, listing and invoicing. In conclusion, why not do away with a lot of unnecessary and superfluous ideas, gadgets, systems, codes, graphs, cycles, curves and technical terms, and in their place put some good understandable English and easily grasped illustrations so that all can readily understand them.

Many thanks to the COMMERCIAL

ernment was offered the idea (at a nominal price) but they considered the idea too new and too dangerous to even experiment with. I recall now the fueling system of this revolutionary engine (they call it that now) for it was designed for use in an aeroplane twisting and turning in real acrobatic performance.

What a God-send a fueling system of this type would be to the operators of low mileage cars and trucks who are lucky to get anything near ten (10) miles on the gallon of gasoline put in the tank. I sincerely believe that the present-day methods of carburetion will one day be a thing of the past and will be replaced by a fueling unit which will be economical, efficient and reliable beyond the imagination and which will above all eliminate the use of "bad language."

I hope that the transportation world will one day be big enough to demand something new in the way of fueling and when that day comes, I hope they will in true American style build a shrine and place therein one of the more uneconomic types of carburetors. The following verse would be suitable for inscription over the door:

Herein lies a carburetor,

It was used in a car, the dirty old waster,

It never performed as it was intended

and never will return to its former place.

For it only pretended

and since by a new fueling device it has been displaced

This dirty old carburetor must remain in this place.

ARTHUR C. A. HACKER,
Automotive Dept.,
New York Power & Light Co.,
Albany, N. Y.

Front Motor Support Studs

THE GRIPE DEPARTMENT,
DEAR SIRs:

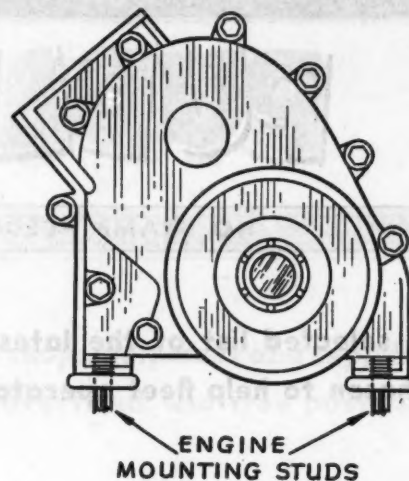
Now for a real gripe.

The front motor support studs screw into the front timing case

which is made of cast iron. These studs break off at case by the jostling on the road and, brother, what a tough job to get the broken stud out.

You can't get it out on top, generator, fan belt, pulley, wires and air line hose on one side and on the other side air compressor, water lines, oil filter, air lines and others. And you don't have but little room to work underneath. There are such obstacles as front axle, wires, pipes, hose, dirt, grease, tar, road scum, front support and what not.

\$10



off everything but your feelings toward the man or men that put the front motor support on the blueprint. I wash they had to get one out.

Why don't they use arm like they do on other models. These bolts never break. These bolts are easy to get to if you had to.

G. W. LAYNE,
Mechanic,
Brooks Transportation Co.,
Richmond, Va.

CAR JOURNAL for making these exposés possible.

W. M. HEIL,
Motor Mechanic,
Gulf Refining Co.,
Louisville, Ky.

Service Meetings to Supplement Manuals

THE GRIPE DEPARTMENT,
DEAR SIRs:

Having been named "gripping Pete" and winning a War Bond from COMMERCIAL CAR JOURNAL, I am about to blow up again.

I think the truck manufacturers have done a fine job in these manuals.

They seem to cover everything on their particular truck. But from the way I see it in most shops and garages, these books are laid aside, accumulate cobwebs and are never looked at for any kind of factory adjustment data. A very sad mistake on the mechanic's part.

These manuals are very important and should be used, no matter how smart the mechanic thinks he is. Don't forget in the postwar world, mechanics are going to have to know more, know it better, and know it quicker, so use your books.

But my advice to the manufacturer in this coming motor age in regard to his particular truck or car is continue the manual and along with this conduct a little school one night in every city. Invite the boys out and

have a good engineer explain all the important parts and adjustments. Answer questions that may arise from time to time, and there are plenty of questions to be answered.

Have a little refreshment along with this meeting and I know that you will meet some of the finest mechanical brains in the country around some of our fleet shops. That will make some of these engineers stop, look, listen and think.

We are putting this thing over the top now and in the postwar world, if the manufacturer will help the mechanic out in the field, we will have the finest trucks. The hell with German Robots—or Jap sneaks.

A. E. PETERSON,
Mechanic, Gulf Refining Co.,
Louisville, Ky.

FREE

PUBLICATIONS

NO STAMP NEEDED

USE THE POSTCARD

A selected list of the latest in literature—books, pamphlets, catalogs—chosen to help fleet operators solve maintenance and operating problems

L240. Tire Booklet

"How to Save Truck Tires" is the title of a new 24-page booklet published by a well-known tire manufacturer. "Tire conservation embraces many factors," the booklet states. "Vehicles must be in good condition, operating practices must be checked and controlled and the tires themselves must be adequate for the job."

Details relating to each of these factors are illustrated and described.

Relying upon periodic fleet surveys to detect tire abuses is not adequate under present conditions, the booklet states. A day-by-day system of preventive maintenance is necessary to correct faults before the damage is done. Suggestions are therefore given for a tire mileage check, with a reproduction of a form that could be used in any fleet.

You won't want to miss this unusual booklet. Just write L240 on the free postcard.

L241. Driver's Handbook

A 32-page pocket-size booklet has been prepared by a leading casualty company in the interests of safe driving. The "Driver's Handbook" is directed especially at the driver, who is responsible "for the load carried, for the welfare of his family and dependents, for the public property and for the good will of his company."

Among several suggestions outlined for safer driving are: road courtesy to fellow motorists, proper braking and backing, a careful observation of intersections and pedes-

trians, care in passing on hills and on curves, and the observation of traffic regulations.

One division of the booklet takes up the care of the truck—from the driver's viewpoint—and shows him how to maintain his truck for safer operation. And finally the booklet outlines a procedure to be followed in case there is an accident.

This booklet is new, easy to read and informative. Get your copy by writing L241 on the free postcard.

L242. Welding Literature

A new 4-page illustrated folder recently issued by a welding company explains low temperature welding alloys and their value to the field.

Specific applications on design and procedure are featured. Among the advantages of low temperature welding are: less chance of distortion because of the low bonding temperatures, less after-machining and cleaning, a reduction of preheating time and an all around economy because of the greater speed, saving of materials and skilled help.

The last page of the folder is devoted to a full-page assortment chart designed to aid technicians and welders in selecting the proper rod for their particular job.

The folder is well worth reading. Write L242 on the postcard for one.

L243. Pamphlets on Mufflers

Four interesting pamphlets on the exhaust system have been made available to the shop man recently through

the courtesy of a leading manufacturing company. These pamphlets take up the design as well as the use of the muffler in modern automotive engines. Each publication takes up a different phase of the function of the muffler and illustrates the points with clear, easily-understood diagrams.

Sometimes the muffler is the cause of a sluggish engine or an engine running hot. Sometimes loss of power at high speeds can be attributed to back pressure due to a damaged muffler. Various other troubles can be attributed to a defective muffler.

While written by a chief engineer, the pamphlets are not too technical for easy reading. New mechanics will find them a source of valuable information. Experienced shop men will find a lot of interesting facts as well. Get a set now by writing L243 on the free postcard.

L244. Employment Booklet

Here is a 50-page bulletin that should be of interest to those fleet operators employing women in their shops or considering the employment of them at a later date. The bulletin, entitled, "Employment Opportunities in Characteristic Industrial Occupations of Women," is a Government publication. It deals with employment practices along present day patterns as well as postwar prospects for women workers.

The publication illustrates the way in which women's work in industry during the war has extended over a

(TURN TO PAGE 180, PLEASE)

NEW

PRODUCTS

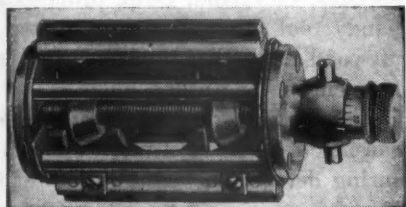
USE THE POSTCARD

NO STAMP NEEDED

The newest in replacement parts, accessories, shop equipment and supplies.
For more details of products described or advertised, use free postcard

P50. Self-Lubricating Grinder

A self-lubricating grinder for fast, clean and accurate cylinder grinding has been developed by the Automotive Machinery Co., Chicago. The grinder is light, easily adjusted and can be operated by any 1/2-in. elec-



tric drill. A revolutionary process, whereby the stones and buffing guides are impregnated with a dry lubricant, controls abrasive dust and saves time on the cleanup. No vacuum cleaner is necessary. The tool requires little adjustments and is easily and quickly removed to check the work. The Ammco grinder is furnished with one set of standard stones and one set of burnishing stones.

Use Free Postcard For More Details.

P51. Metal Detergents

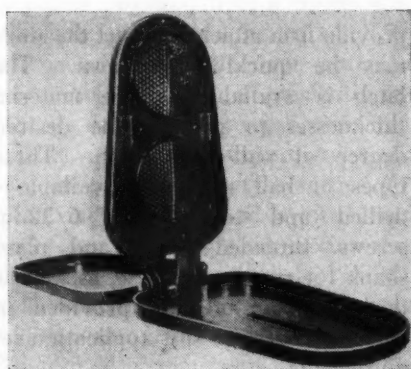
The Optimus Detergent Co., Matawan, N. J., has just announced a new line of industrial metal cleaning materials, designed to cover a wide range of specific applications. Emphasis is placed on the use of the proper detergent in conjunction with the correct cleaning method. The new products are available in alkaline, acidic, solvent and emulsion types.

Use Free Postcard For More Details.

P52. Safety Reflector Flare

The Miro-Flare, developed by the Miro-Flex Co., Wichita, Kan., is a simple fool-proof flare made of large double faced plastic lenses mounted on a collapsible stand. This type of flare will withstand a 52-mile wind, requires no attention at any time and is unaffected by weather conditions, according to the manufacturer. Visible from both directions at a distance of one-half mile, the reflection increases in intensity as the vehicle approaches. The warning is constantly red and remains visible even in the light of approaching vehicles.

Miro-flares come in sets of three in a fitted carrier which may be at-



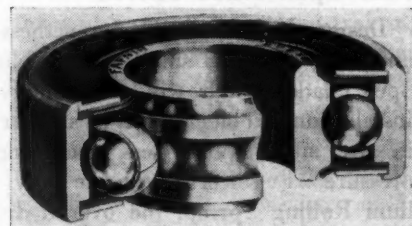
tached to cabs or beds. The flares close up like a book to a dimension of 10 x 6 x 4 in.

Use Free Postcard For More Details.

P53. Positive Sealing Bearings

The Fafnir Bearing Co., New Britain, Conn., is offering an entirely new type of sealed ball bearing.

Known as "Plya-Seal," the sealing element consists of a diaphragm-type, contact seal comprising two members—a flat, flexible sealing washer of synthetic rubber-impregnated fabric and a split retaining ring of spring steel. Due to the minimum space re-



quired for the two seal parts these bearings, except in the extra-small sizes, are held to the same widths as standard unsealed bearings.

The Plya-Seal can be easily removed and replaced to allow inspection, washing, and re-greasing of the bearing. Performance in service has proved that Plya-Seal assures maximum retention of lubricant and maximum exclusion of dirt and liquids. The seal causes no distortion of the outer ring or race, so does not affect the concentric relationship of the inner and outer bearing rings, according to the manufacturer.

Use Free Postcard For More Details.

P54. Lubrication Unit

The new Lincoln Handi-Luber makes it possible to convert an ordinary original grease container into a 25-lb. high-pressure grease gun. Low
(TURN TO NEXT PAGE, PLEASE)

NEW PRODUCTS

(Continued from Page 59)

USE THE POSTCARD

BETWEEN PAGES
58 AND 59



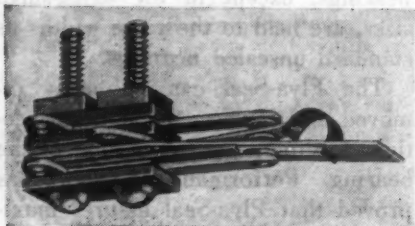
in cost, and great in utility, this unit is ideally suited for use on farms, in shops, mills, mines or factories. It is the latest addition to the line of lubricating equipment manufactured by the Lincoln Engineering Co., St. Louis, Mo.

Model 1266 Handi-Luber is a compact, sturdily built high pressure grease pump equipped with a 5-ft. hose assembly with hydraulic coupler for contacting all Kleenseal and hydraulic fittings. Manually operated, the unit dispenses either light cup grease or viscous types.

Use Free Postcard For More Details.

P55. Open Blade Switch

Designed for more compactness and long life, this small single pole open blade switch will solve many installation problems. It is smaller in size and requires less operating pressure. Engineered with the Beryllium Rolling Spring, the overall dimensions are approximately 2 1/32 in. x 10/16 in. x 23/64 in.



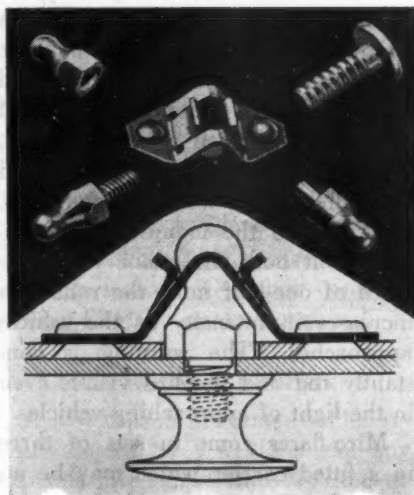
Contact arrangements are for normally open, normally closed or double throw circuits. Being an open blade switch, the means of actuation is provided by the user. Tests of these switches have shown a mechanical life expectancy of more than ten million operations. Standard operating pressure at the end of the blade is only 3 to 6 oz. Rated at 15 amp., 115 volts a.c. The switch is manufactured by the Acro Electric Co., Cleveland, Ohio.

Use Free Postcard For More Details.

P56. Spring Steel Latch

The new spring steel Speed Nut Latch No. 1663, manufactured by Tinnerman Products, Inc., Cleveland, has been developed for instant attachment and removal of box covers, access doors, panels and inspection plates.

The spring arms of the Speed Nut snap over ball or grooved studs to



provide firm attachment, yet the studs may be quickly withdrawn. The latch is available in five material thicknesses to provide the desired degree of pull-out tension. Three types of ball studs are available—drilled and tapped for 6/32-in. screws, threaded shank and plain shank for riveting. These, as well as the grooved stud, are provided in various lengths to suit application requirements.

Use Free Postcard For More Details.

P57. All Aluminum Ladder

A complete line of industrial ladders in all-aluminum tubular rail and channel construction is available from the Duo-Safety Ladder Corp., Oshkosh, Wis. All aluminum construction offers the advantages of light

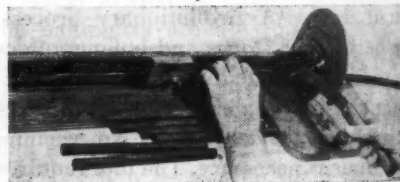
weight plus greater strength and safety. Featured in a new AL 45 Broadside are the heavy duty and light and medium industrial types in both single and extension models. These include folding ladders, marine boarding, scaffolding, light telephone and utilities plus a heavy aluminum platform step ladder which will be available shortly.

Use Free Postcard For More Details.

P58. Handy Cutting Tool

The Zim Cutter No. 2, designed by the Zimmerman Packing Co. and distributed by William, Leonard and Associates, Cleveland, Ohio, promises a handy tool for cutting hose, rubber, plywood and other similar materials to accurate length and angle.

Square butt or bevel joint rings can be cut most effectively. The measuring device can be set to the exact



length desired. The circular knife can be adjusted to give eight new cutting edges. Because the knife is round, it goes through the material at a 45 deg. angle, cuts clean and instantly and leaves no fraying or mashed ends.

The cutting blade is completely encased so that workers can operate it with safety. Weighing only 17 lb., the tool can be either attached to a bench or carried as a portable unit.

Use Free Postcard For More Details.

P59. Direct Action Cleaner

A direct action chemical cleaner has been developed by the E. A. Gerlach Co., Philadelphia, Pa., and is



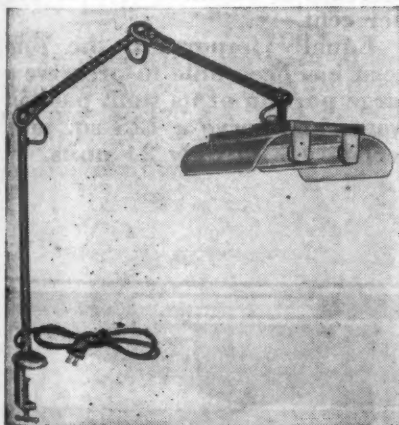
now on the market. "Soax" is a modification of an aviation formula used in the cleaning of airplane parts. This cleaner has been compounded especially to meet the needs of the automotive industry for degreasing and cleaning carburetors, fuel pumps, engines, pistons, brake shoes, clutch plates and similar parts.

The following advantages are claimed for the cleaner: It is a direct action, cold immersion, ready to use cleaner. It is fast—will soak off carbon, gum, grease, paint in 5 to 30 sec. It is harmless to all metal parts, if used as directed.

Use Free Postcard For More Details.

P60. Fluorescent Light Unit

The Fostoria Pressed Steel Corp. has redesigned the Localite Model FLB fluorescent light unit to include a new 20-gage aluminum reflector



with better cut-off angle than was possible with the masonite reflector used previously. The reflector is 15 3/16 in. long, 9 5/16 in. wide and 6 5/8 in. to center of ball which connects with the arm.

The outstanding feature of this unit is that no conventional ballast is required. It is operated by a 60-v. 5 ampere S-11 ballast lamp which replaces the necessity for conventional ballast.

A variety of standard Localite arms and bases are available to use with the FLB reflector, thus making it a very flexible "seeing" tool for various assembly, inspection and miscellaneous bench and table operations.

FLB operates on 110-125 volts, either a.c. or d.c. It utilizes two 14-watt fluorescent lamps. Total wattage, of the unit is 45 watts on a.c. and 38 watts on d.c.

Use Free Postcard For More Details.

P61. Automatic Parts Washer

A new, automatic washer for industry has recently been put on the market by the Modern Mechanic Co., Chicago, Ill. The heavy-duty model includes rinse vats for production-line



work. One man can operate three baskets of metal parts, washing, rinsing and draining each basket at the same time. Users say this model, served by one man, does the work of five to six men operating otherwise.

The Modern Mechanic's impeller pump is powered with a 1/2-hp. single-phase motor and forces a ton of solvent every minute over parts to be washed, quickly and efficiently removing acid, grime, grease, etc. Only 65 gal. of washing liquid are used, and it is automatically screened by baffle-and-grill so it can be used over and over. The settling action for dirt and chips provided for in the design of this machine, is only one of the many patented features of Modern Mechanic.

Use Free Postcard For More Details.

P62. Compact Bushing Set

A compact bushing set with an assortment of several size drivers for any bushing job has been assembled by the New Britain Machine Co., New Britain, Conn. There are 20 drivers ranging from 13/32 in. inside diameter and 7/16 in. outside diameter, to

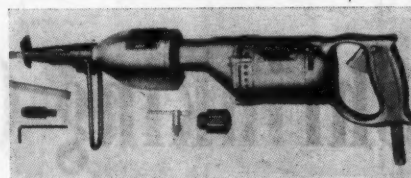
1 1/4 in. inside diameter and 1 3/8 in. outside diameter. There are No. 1, 2 and 3 retaining bodies and No. 1, 2 and 3 retaining nuts in the set.

A priority rating of AA-5 or higher is required for purchase.

Use Free Postcard For More Details.

P63. Power Saw Gun

A handy and efficient portable saw or file-gun has been developed by the Mid-States Equipment Co., Chicago,



to get into those inaccessible places around a truck body.

The Saw-Gun is a device that fits on an electric drill of 1/4-in. or 5/16-in. capacity, having an r.p.m. of 2000 or more. In sawing operations, a broken hack-saw blade is inserted in the holder and the tip of the blade is placed against the work.

The Saw-Gun is simple in construction and requires no special training on the part of the operator. It can be used successfully for cutting wood, plastics, light and heavy gage steel, castings, rods and other similar materials. The special file holder can be inserted to accommodate nearly any file for filing work.

Use Free Postcard For More Details.

P64. Auto Charger

A new charger for recharging IDEAL rechargeable flashlight storage batteries from an automobile battery is announced by the Ideal Commutator Dresser Co., Sycamore, Ill.

This new charger now brings the advantages of the rechargeable flashlight cell to the drivers who must carry flashlights for regular or emergency use.



The charger is easily installed and connects directly to the "live" side of the ignition system. It is neat and

(TURN TO PAGE 224, PLEASE)

Tips from a Laundry on Shrinking COSTS

by WARREN E. CRANE

AFTER the attack on Pearl Harbor and the outbreak of the present World War, the Imperial-Quality and other laundries of Seattle were faced by competition in the labor market by the big airplane factories and shipyards. Men left the laundries in many cases to do war work in the defense plants. This exodus promised to continue indefinitely. At about that time, the Imperial-Quality Laundry in conjunction with its affiliate, the Consolidated Cleaners and Dyers Corp., reorganized and streamlined its delivery system. As a result of this and several other changes, it has preserved a large portion of its staff, paid top wages in its field, reduced its mileage 60 per cent and brought its cost of truck operation down from 6 and 7 cents a mile to 5½ cents in spite of a general trend of rising prices for tires, gasoline, labor and equipment and an increase in business of over 100 per cent.

The Imperial-Quality Laundry was founded in 1912 with 18 employees and has grown steadily until it and its dry cleaning affiliate has 150 employees and does a volume of approximately one-half million dollars a year. It maintains 24 delivery units that go far beyond the city limits of Seattle and cover an area extending about 25 miles from north to south and five miles from east to west. In other words, they traverse a territory of approximately 125 square miles each week to serve a city and suburban area inhabited by about 600,000 people according to latest wartime estimates.

What are the factors behind the company's remarkable record of lowered costs in spite of wartime conditions? Upon being interviewed in his spacious office, Fred L.



FRONT OFFICE TIPS . . .

With the outbreak of the war, this Seattle laundry was faced with labor competition with defense plants. To meet this competition, Fred L. Mawer, manager, streamlined routes with an eye to efficiency and economy.

After a study of the delivery area, 11 zones were formed and certain trucks assigned to each. Loads were redistributed, calls put on a weekly schedule, call-backs eliminated, and the business put on a cash basis.

As a result, mileage was cut 60 per cent. Operating costs were reduced from 6 and 7 cents to 5½ cents per mile in spite of an increase in business of over 100 per cent.

Equally important, the concern has been able to preserve a large portion of its staff, pay top wages and serve a 125 sq. mile territory with only 24 units.

Management realigns routes,

Mawer, the manager, said that it was the result of two things: first, the firm's realignment of its entire fleet to eliminate waste motion and expense; second, the excellent supervision exercised by R. F. Wells, the company's fleet superintendent.

Before the advent of the war, the laundry covered its



AND SOME FROM THE SHOP

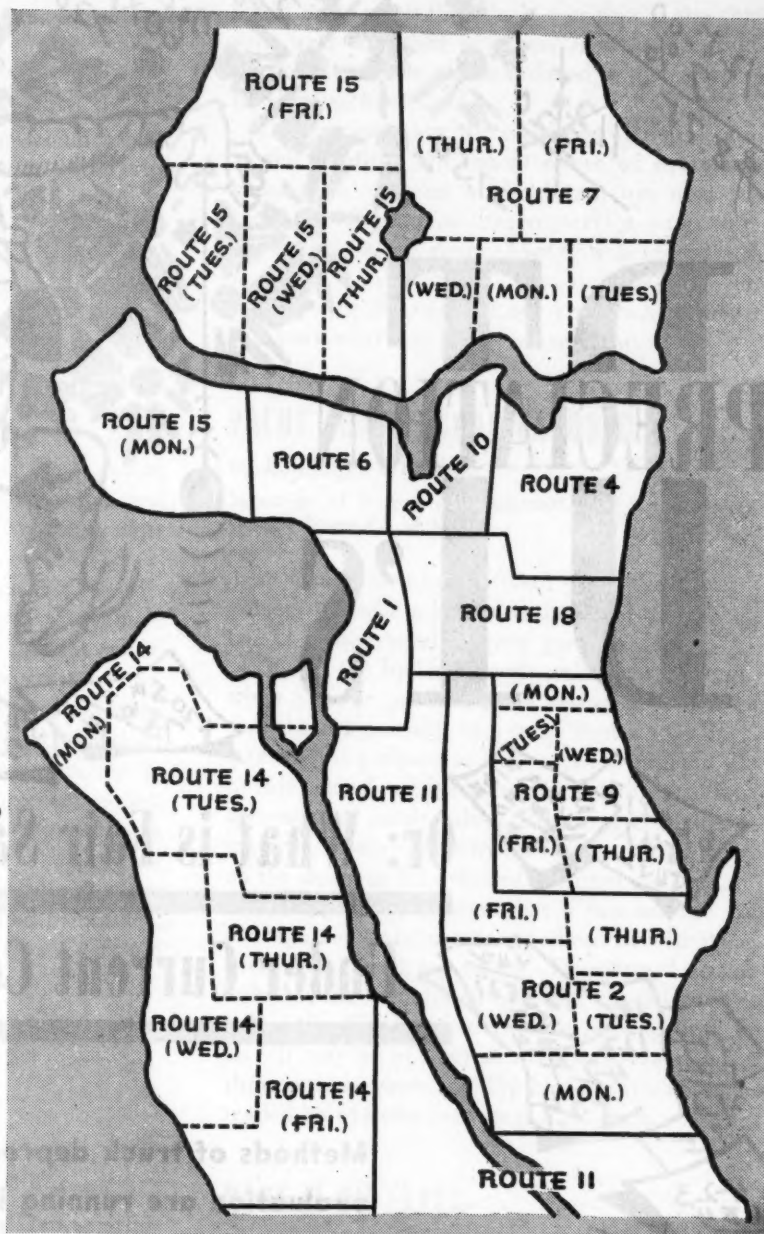
Half the credit for this remarkable record goes to R. P. Wells, fleet superintendent, who says, "We have cut our operating costs materially since the war began by means of extreme care in the operation of our trucks, based upon an intensive 12-point maintenance program."

Some of the operations covered by this program are:

"Tires are checked and repaired frequently. We have put in as many as five small sections in some casings.

"Batteries are checked weekly. We maintain that 40 to 50 per cent of road failures are due to faulty batteries or ignition systems.

"Our efforts have been aided through the cooperation of drivers and mechanics. They are all instilled with the spirit of preventive maintenance.



shop intensifies maintenance and instructs drivers in fine points of operation

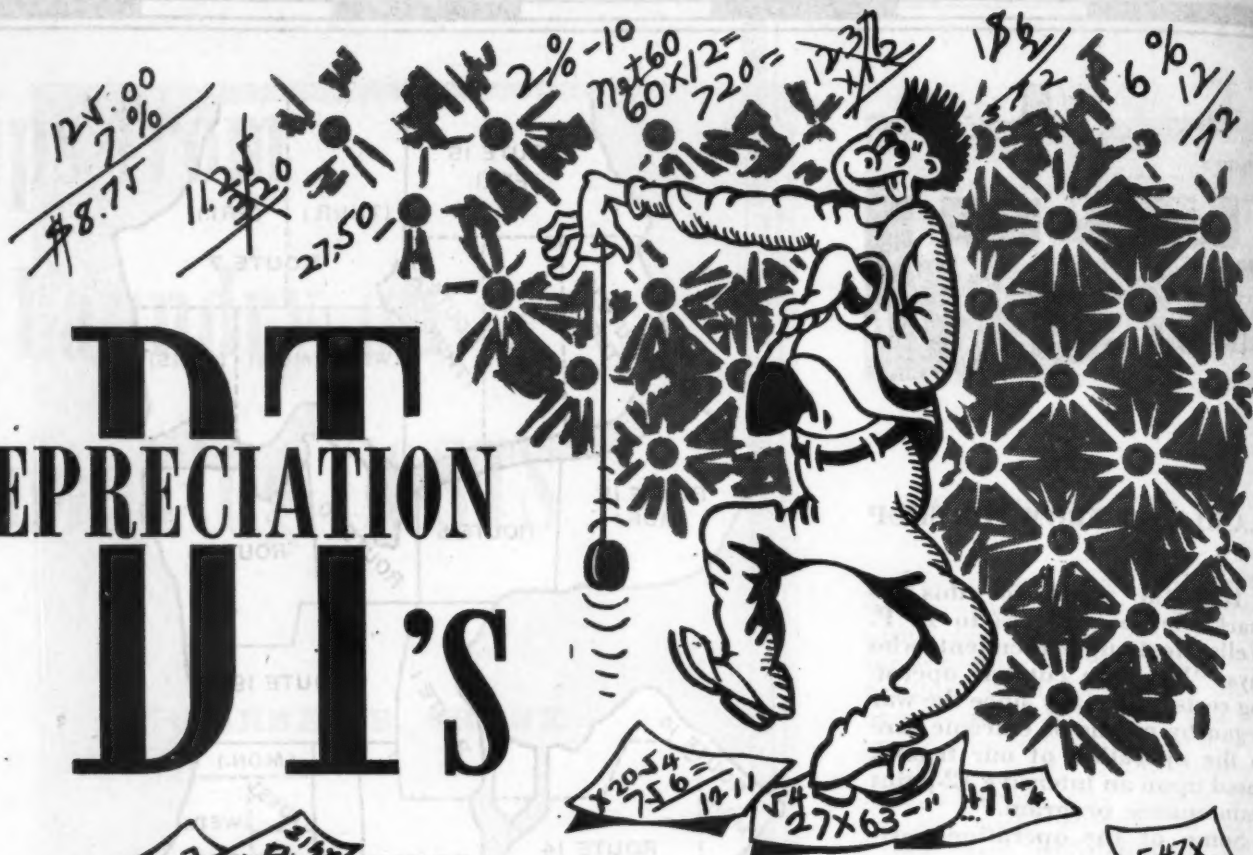
territory in the same way as most of the other firms in its category. Trucks traveled from one house to another in their respective districts. Laundry and dry cleaning was picked up on Monday, Tuesday, or Wednesday. If it was not ready on specified days, they made a third or fourth call later in the week. In this way, a large amount

of gas, tires and equipment was used in order to obtain work in a highly competitive field.

After Pearl Harbor, Mr. Mawer, the manager, Mr. Ray Briggs, the president, Mr. Wells, the fleet superintendent, and their associates worked out an entirely

(TURN TO PAGE 92, PLEASE)

DT DEPRECIATION DT's



Or: What is Fair Salvage Value

Under Current Conditions?

Methods of truck depreciation and salvage evaluation are running into wartime snags, making timely this "round table" discussion by 11 fleetmen who air their expert views

EDITOR'S NOTE

This interesting discussion of depreciation and residual value under abnormal conditions which have prevailed began very innocently. A fleet manager put the editor on the spot with the following statement and question:

"As you know, many operators of fleets of light panel delivery trucks, for accounting purposes depreciate these trucks so that

at the end of four years they are carried on the books at \$75 'salvage value' and, in normal times, would ordinarily be replaced at the end of this period. Today, however this is not possible and probably all these trucks will be at least seven or eight years old before they can be replaced.

"The question is: What would be a fair figure to carry on the books until the day they can be replaced?"

The editor set out to find the

answer. He turned first of all, to S. G. Page, general superintendent, Equitable Auto Co., Pittsburgh Pa., an expert in cost accounting matters. Mr. Page came through with some views which lead off this discussion.

The editor next submitted the Question and Mr. Page's views to a group of leading fleet managers for their comments. They came through handsomely and the net result is this informative article.

WE STOP AT \$150

by S. G. Page

Gen. Supt., Equitable Auto Co.,
Pittsburgh, Pa.

The subject of depreciation is a very interesting one, but I am wondering why the fleet operator would worry too much at this time about salvage value under the unusual conditions.

I do not think any one can, without changing their depreciation policy annually, ever arrive at a solution that hits the conditions on the nose because there are too many variables in the subject. The used car market can kick a good theoretical depreciation policy galleywest.

It strikes me that the book value figure he suggests is somewhat below normal salvage values even in a comparatively poor market. If he has an accounting system that will allow him to give and take on his depreciation accruals he may be wrong on a particular vehicle but generally right on his fleet, which after all is what most people are after.

In our own fleet we stop depreciation on a panel delivery truck at \$150 and we continue to carry the vehicle at that price although we may hold it under present conditions three or four years beyond normal expectancy.

A depreciation policy that is built on average conditions or somewhat poorer conditions tends to fail in the right direction at a time like this, when we are compelled to keep vehicles past their economical replacement point, and you at least have your money out of the job; whereas if you attempted to follow present conditions with a revised depreciation policy a sudden change might mean that you had a lot of vehicles that you wanted to replace, but you didn't have sufficient depreciation reserve accrued to allow you to replace them.

BOOK VALUE DOWN TO SCRAP

by G. H. Sibley

Chief, Sales Operating Div.,
Jewel Tea Co., Inc., Barrington, Ill.

We operate a fleet of sedan delivery units, depreciating them over a four-year period to a salvage value of \$75 so I will recite our experience.

Early in 1943 we reached the conclusion that we could not adhere to the exact formula used in so-called normal years. The situation in which we found ourselves would probably last another two to four years and require special handling.

By all known standards our equipment has outlived its safe, efficient and economical life. In spite of the tremendous sums of money spent for repairs and maintenance the quality of work being done is such that all you can say for our trucks is—they're running.

There has been a substantial decline in gasoline mileage, oil consumption is up, appearance is anything but desirable and gradually growing worse—because in many places it is almost impossible to get body repairs. There are an increasing number of failures—some of which have caused serious accidents and a great amount of lost time.

Taking into consideration that our trucks are not improving with age—that there will be a surplus of used

equipment, the current operating expenses on these trucks will be so high one could not afford to operate them—we could only reach the conclusion that if the company records were to reflect anywhere near an accurate appraisal the book value should be reduced to just scrap value. This is what we have done.

I appreciate that the handling of depreciation as well as the handling and maintenance of equipment varies a great deal. We do not maintain our own repair shops but must depend on dealer service—and you probably know better than anyone else how inadequate this service is today.

Consequently, we feel our approach to this problem in our particular case is the correct one.

VALUE ABOVE SCRAP FAVORED

by Randolph Whitfield

Supervisor of Automotive Equipment,
Georgia Power Co., Atlanta.

It would be very difficult with the uncertainties involved, to make a logical estimate of the salvage value of trucks to be traded at some postwar date.

Due to the limited supply and huge demand for trucks when regular production is resumed, it can be assumed that the replacement of a large fleet would be spread over a period of perhaps at least a year. During the first part of this period, used trucks will probably still have a higher than normal resale value, but during the latter part of that interval, resale values will probably approach scrap values as the demand for vehicles becomes satisfied.

Hence, it would seem that a fair salvage value would average somewhere between these two limits, and necessarily be above scrap value. Therefore, I do not think the value of the vehicles in question should be written down below the \$75 figure they have already been depreciated to. It may be of interest that the average salvage during three prewar years for 230 half-ton trucks four years old, traded by our company, was \$257 each.

BASE IT ON TAXES

by Donald K. Wilson

Superintendent Automotive Equipment,
N. Y. Power & Light Corp., Albany.

My ideas on depreciation are somewhat unorthodox and do not necessarily represent those of my company.

Due to changing prices and markets, depreciation percentages based on previous experience are seldom accurate for projection into the future. In my opinion, operating men expend entirely too much time on "paper figures" involving depreciation. Frequently, depreciation write-off is established by accounting practice, or regulatory bodies, and the operator has little control over it. Where this condition does not exist, it seems to me that depreciation should be based on the optimum requirements for tax purposes, and let go at that.

As an actual matter of fact, too much wishful thinking has colored depreciation practice, based on a natural, normal desire for new equipment. I submit that the proper time to trade in a truck is at the time the manu-

(TURN TO PAGE 66, PLEASE)

DT DEPRECIATION DITS

(Continued from Page 65)

factor has brought out a new model incorporating sufficient improvements to warrant its purchase, or when changed operating conditions make the purchase of a new truck imperative: These are variable factors, changing from fleet to fleet, and in different classes of service within the same fleet. These factors may render a truck in a certain type of service obsolete within a year's time—other similar models in a different type of service may not become obsolete for 10 years.

My suggestion to your questioner is that he do whatever works out best from a tax standpoint.

RESERVES OUT OF CONTROL

by S. B. Shaw

Auto. Engineer, Large West Coast Fleet.

Among the various things that have been upset by war conditions are depreciation reserves. In our case, and I presume in the case of many other operators who have had to continue vehicles in operation long after their replacement was overdue, depreciation reserves have gotten somewhat out of control.

This would not be the case if the amount of reserve was intended to take care of replacement purchase of the vehicle. However, the reserve is only intended to take care of the writing off of old vehicles so that it is not affected by increased prices which may have to be paid for new ones.

For many years our method of accumulating reserves has been by the so-called variable annuity sinking fund basis. We are required by regulatory authorities to use the sinking fund basis for accumulating our reserves. However, in order that reserves will be adequate at any time from three or four years to eight or 10 years, we use the variable annuity method. In that way we have in the reserve at any time for the account of any vehicle the approximate amount that is required to take care of its replacement. However, after a relatively long period of eight or nine years the reserve is equal to the original cost of the vehicle and from then on, unless the vehicle is replaced, annuities plus interest accumulate to an excess of 100 per cent of the original cost of the vehicle which, of course, is not good accounting, at least theoretically. For those reasons it has been necessary to shake our annuities down considerably to prevent the depreciation reserve from becoming excessive.

RESIDUAL SYSTEM DOWN TO \$1

by The Automotive Department

Head of a National Meat Packing Fleet.

No doubt, in a small fleet there are many variations that could be made in a system which might prove beneficial from an accounting standpoint. However, in our setup with a large fleet scattered to the four winds and accounting handled at every operating point, it is necessary that we maintain a very rigid policy governing our handling of depreciation.

We capitalize the gross vehicle, including all special equipment, bodies, tires, etc. We use a residual system of depreciation, the rate depending upon the price class in which the vehicle falls. The lower the price in given brackets, the higher the rate of depreciation. We continue this process if the vehicle remains in service long enough until the book value reaches one dollar (\$1.00), and this amount stands until the vehicle is finally scrapped.

Any salvage that accrues, sale, or trade-in are credited to the depreciation reserve account.

I see no point in attempting to estimate the potential salvage value of a piece of equipment and depreciate down to that level. It does not occur to me to be advantageous to stop depreciation at any given level as you lose the benefit of this depreciation charge in operating expenses which obviously would throw one vehicle out of step from a cost standpoint as compared to one of approximately the same age that still carried a depreciation charge.

All depreciation accounting in our company is the responsibility of the Comptrollers Division. I use as a control the sum of the depreciation and maintenance accounts. This figure in normal times we use as an index of operating efficiency as the older the vehicle the lower the depreciation charge and the higher the maintenance expense. When your total maintenance expenses reach a level out of all proportion to your depreciation charges, then your replacement program is out of step.

20 OR 30% RESERVE EXPECTED

by George H. Irish

Head, Transportation Section,
Tennessee Valley Authority, Knoxville.

Depreciation accruals for our light and medium vehicles, including light panel delivery trucks, are computed by the straight-line method based on estimates of the average number of miles expected from each class of vehicle. From these estimates a rate per mile is developed for each class, which is applied monthly to the total mileage. We do not keep separate depreciation reserves for each vehicle, nor do we compute the profit and loss on each retirement, but we charge the reserve for depreciation with cost of the retired vehicle, less net salvage.

Rates are adjusted periodically after reviews of the situation in connection with each class of vehicle. Thus, we avoid violent fluctuations in rates and can charge current operations with its share of the use.

In fixing rates, salvage values must be taken into consideration. The salvage value is estimated on the basis
(TURN TO PAGE 69, PLEASE)

DEPRECIATION DTs

(Continued from Page 66)

of our best judgment of the realizable salvage as of the date retirement is expected and is not necessarily related to present-day prices.

During periods of normal replacement, and after the number of vehicles in a group became stable, we found that our reserve reached an almost fixed point of 35 to 45 per cent of book cost. However, since normal replacements cannot now be made, we expect this to climb to about 70 or 80 per cent of cost. In other words, we expect to have our fleet of light vehicles written down to 20 or 30 per cent of cost at the time we can commence to replace. This, of course, is in excess of the \$75 figure mentioned by your reader, which figure is below the salvage values realized by us on vehicles having an average of about 65,000 miles accumulated in rough service over an average of from five to six years.

We would not consider a system of depreciation accounting which involves writing a vehicle down to a fixed minimum price and discontinuing depreciation thereafter. The cost of vehicle use is not fairly distributed by this method. We much prefer grouping all similar machines and arriving at a rate which can be applied continuously.

In arriving at depreciation rates numerous factors must be taken into consideration other than the residual value. Maintenance and replacement policies, accident experience, and future requirements must be considered. Our rates are designed to cover retirements and losses for any cause including obsolescence, normal wear and tear, collision, fire, and theft. For our heavier equipment we use a dual rate which consists of a monthly charge to cover obsolescence, which is a function of time rather than use, plus a per-mile or operating hour charge to cover wear and tear from service.

SALVAGE VALUE 15%

by Transportation Superintendent
of an East Coast Public Utility.

The question of a fair salvage value to carry until vehicles are replaced is apparently a debatable subject. Until June, 1943, it was our practice to make a semi-annual review of our depreciation charges in order to determine the latest capital investment, current salvage values and estimated mileage life by various makes and

classes of units. We usually used as a basis the 12 months' experience preceding the date of the review. This procedure took into consideration any additional equipment installed on the units during the preceding year and the salvage actually received on the units traded in, in addition to the mileage life attained at the time of replacement.

On sedan and panel deliveries which we treated as a group, regardless of make, our salvage usually amounted to \$280 or 32 per cent of the average investment. This included not only the value received from the dealer but also additional equipment which had been installed during the life of the unit and recovered before delivery to the dealer. Therefore our periodic reviews gave effect to fluctuations in the used car market.

In June of 1943 this procedure was abandoned for the duration and the depreciation charges instead of being based on a rate per mile, were charged on a flat monthly basis. This was considered advisable due to the drastic reduction of about 55 per cent which had been made in our fleet mileage by that time. We felt that our charges would not be sufficient under a mileage basis to compensate for replacement of units when vehicles were available.

Our present method is based on an estimated salvage value of 15 per cent of our capital investment, with the expectation that our fleet will be replaced between June, 1946, and June, 1947. The net effect of the revised procedure has resulted in approximately the same depreciation expense charge to our operations as before the war.

DEAL ANNUALLY IN AVERAGES

by Linn Edsall

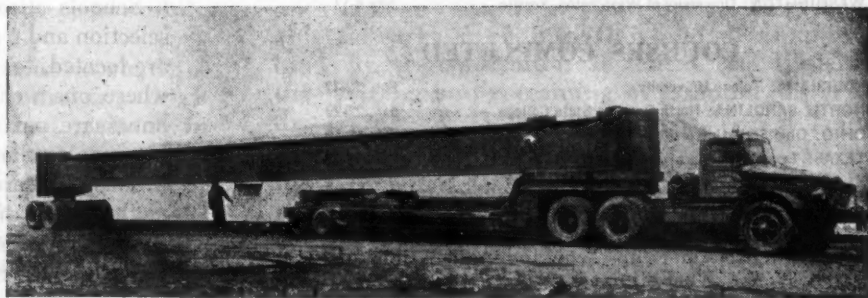
Gen. Supt., Transportation Div.,
Large East Coast Fleet.

It seems to me that when Jack Page says we should not concern ourselves too much with salvage values of automotive equipment at the present time, he has stated the case. In fact, in our fleet, we do not worry too much about salvage values of individual units, or amortization of individual units, at any time. We deal almost entirely with averages, dividing the fleet into seven groups for this purpose and assigning, from experience, an average life and salvage value for each group. From this, a normal annual amount to be charged to operating expense and credited to depreciation reserve is established for each group.

Annually, the condition of the fleet is reviewed, prospective expenditures for each group for a period of years determined and then with consideration of the amount

(TURN TO PAGE 114, PLEASE)

It took three railroad cars (two flat cars and one gondola) to transport this massive steel beam to the freight yards at Alexandria, Va., where it was unloaded and transferred to J. W. Barton's husky Mack heavy-hauling combination for delivery to a local bridge site. Weighing 80 tons and stretching 104 ft. in length the beam was one of two moved by Barton's big Mack





BACK TO SCHOOL!

1945 SCHEDULE UNIVERSITY COURSES FOR AUTOMOTIVE FLEET SUPERVISORS

CALIFORNIA: University of California, Berkeley.....	July 23-27
University of Southern California, Los Angeles.....	July 30-Aug. 3
COLORADO: University of Denver, Denver.....	June 25-29
FLORIDA: (School and date undetermined).....	
GEORGIA: Georgia School of Technology, Atlanta.....	Oct. 22-28
ILLINOIS: Northwestern University, Evanston.....	May 21-26
INDIANA: Purdue University, Indianapolis.....	Nov. 5-9
IOWA: Iowa State College, Ames.....	Aug. 20-24
MASSACHUSETTS: (School and date undetermined).....	
MISSOURI: Washington University, St. Louis.....	May 26-June 1
NEW YORK: New York University, New York City.....	Oct. 29-Nov. 2
OKLAHOMA: University of Oklahoma, Norman.....	Nov. 19-23
OREGON: Oregon State College, Portland.....	July 16-20
PENNSYLVANIA: Pennsylvania State College, State College.....	Sept. 10-15
SOUTH CAROLINA: University of South Carolina, Columbia.....	Oct. 15-19
TENNESSEE: (to be announced).....	Nov. 12-16
WASHINGTON: University of Washington, Seattle.....	July 9-13

COURSES COMPLETED

LOUISIANA: Tulane University.....	Feb. 12-17
NORTH CAROLINA: North Carolina State College.....	Jan. 22-29
OHIO: Ohio State University.....	Jan. 15-19
TEXAS: Texas Agricultural and Mechanical College.....	Feb. 19-23

Information concerning these courses may be obtained from Prof. Amos E. Neyhart, The Pennsylvania State College, State College, Penna., or Charles G. Morgan, Jr., American Trucking Associations, 1424 16 St. N. W., Washington 6, D. C.

University Courses for

Aid truck conservation, accident reduction

“BACK to school!”

Hundreds of automotive fleet supervisors are responding to the call, but they are not trekking back to the formidable brick building of boyhood days.

Schools attracting students interested in the scientific selection and training of commercial motor vehicle drivers are located, for the most part, in various state universities where one week or five- or six-day courses of 50 to 60 hours are part of the nation-wide program for training key men so that they may interpret more intelligently the lessons concerning traffic procedure, modern driving methods and over-the-road operations.

In 1944 eight courses were held in as many state universities, and 609 supervisors received diplomas in spe-

cialized driver training. These graduates control 212,172 vehicles.

States holding courses at universities or colleges in 1944 were New York, Pennsylvania, Indiana, Illinois, Georgia, Oregon, Washington, and California.

In 1945, 21 courses were scheduled, with the possibility that more courses will be added before the end of the year.

Cooperating with the universities and colleges offering the courses are 10 national sponsoring agencies: American Trucking Association; American Automobile Association; Automobile Manufacturers Association; Automotive Safety Foundation; Center for Safety Education, New York University; Institute of Public Safety, Pennsylvania State College; National Association of Motor Bus Operators; National Conservation Bureau; National Council of Private Motor Truck Operators, and National Safety Council.

Meeting Urgent Need

The urgent need for practical driver-training programs was recognized by many motor transport operators long before Pearl Harbor. Some operators had developed their own system of training which highlights the following objectives:

1. Improvement of driver selection,
2. Training and supervision with savings accruing through accident reduction,
3. Conservation of equipment,
4. Maximum use of equipment,
5. Better relations between driver and company and driver and customer.

Many fleet owners eager to attain the foregoing objectives realize that the major problem crying for solution

lies in the individual differences between drivers. This difference is especially noticeable when drivers operate over the same route and with the same type of equipment.

For example, Driver A has an excellent driving record plus low maintenance on his vehicle, while Driver B has a poor driving record. Driver B also damages valuable equipment, to say nothing of wrecking customer relations.

Despite the shortage of manpower, the training programs proved highly successful, especially with motor carriers hauling government freight, although the scarcity of vehicles, parts and tires made the selection, training and maintenance of operating personnel difficult of efficacious application in certain localities.

The program, however, had infinite possibilities, as experience revealed, and out of it arose the recognized need for standardized programs designed for every state in the Union. Various leaders representing national associations fostered national application of the driver-training programs. Colleges and universities were selected as the most logical place to teach the teachers. Today the driver-schools are meeting with success undreamed of in unexpected quarters.

The programs are supported by an advisory committee composed of representatives of national agencies interested in motor vehicle fleet operation. This committee realizes that successful fleet operation is not one primarily of education, enforcement or engineering, but of all three. Indeed, improved operation is possible only by advances from all three directions.

The plan for promulgating all three objectives made its debut in 1939 when the first national centers were established to develop engineering and enforcement, while certain agencies featured educational programs. All, ultimately,

(TURN TO PAGE 142, PLEASE)

Fleet Supervisors

by **NORMAN STUCKEY**

American Trucking Associations, Inc.

and stimulate company-driver, customer-driver relations

FIRST DRIVER-SCHOOL

The first driver-school was inaugurated by Prof. Amos E. Neyhart, administrative head, Institute of Public Safety, Pennsylvania State College, and consultant on road training, American Automobile Association.

A pioneer in traffic safety education work, Professor Neyhart presented in 1933 the first high school course in driver education and training in the United States for beginning drivers. Far-sighted educators and traffic safety specialists, learning of the success of the high school training project, flooded his office with inquiries. In 1936 the American Automobile Association appointed

Professor Neyhart full-time staff consultant on driver training methods.

Widening his field, Professor Neyhart inaugurated, in 1939, the first fleet supervisors' training course on a college campus at Penn State. Thus he was able to carry over into the field of commercial highway transportation practical techniques for the training and retraining of commercial vehicle drivers.

Professor Neyhart has actively assisted in training more than 4000 driver training instructors in various states. He is one of the authors of the comprehensive "Sportmanlike Driving" text, widely used in driver education and training.



Prof. Amos E. Neyhart

WITHOUT HOCUS-POCUS

After a few months' absence from the pages of **COMMERCIAL CAR JOURNAL**, Alex. F. Morton is back with a new series of practical articles dealing with his unpreheated welding technique as applied to the repair of truck parts.

The outstanding features of his articles are simplicity and practicability. He makes no recommendations that cannot be backed up by records of successful results, often over a long period.

It can now be revealed that Mr. Morton applied his technique successfully in the Central Motor Repair Shop of the City of New York. He retired May 1, after 25 years' service.

In great contrast with many of his fellow welders, he shuns the secretiveness and hocus-pocus so long associated with the craft. He tells all and tells it so that any man can duplicate the results.

While much of the data concerns itself with salvage and wartime conservation, the usefulness of the welding repair technique no doubt will continue to find a definite place in economical fleet maintenance for many years to come.



Alex. F. Morton

IN PEACETIME low cost engine cylinder heads, when cracked in the compression dome or chamber, were seldom welded either with bronze or cast iron filler material, owing to the welding and machining costs usually exceeding the cost of a new head. Especially such heads as are illustrated, with their roller-coaster-like surface, replacement with a new head was the economical, less troublesome and more satisfactory procedure, with the cracked head going to the junk pile.

Today, some types of heads are almost unobtainable, and when ordered subject to a long waiting period before arrival. This means one or more pieces of rolling stock are tied-up for parts, or the head from another similar truck being overhauled is "borrowed" to get the one ready, but lacking a head, to roll out on the road. This just keeps off the final day of idle time for the trucks still awaiting their cylinder heads.

This condition forced the consideration of reclaiming these heads by welding, even though the cost "perhaps" would exceed the cost of the new head when it arrived. "When it arrived"—there's the rub. If we add to the cost of the new head, the idle time of a truck waiting for a new head, then the cost of welding, grinding and any other machine work will be of little consequence.

This build up sounds like an alibi for an expensive reconditioning job for an inexpensive truck part. On

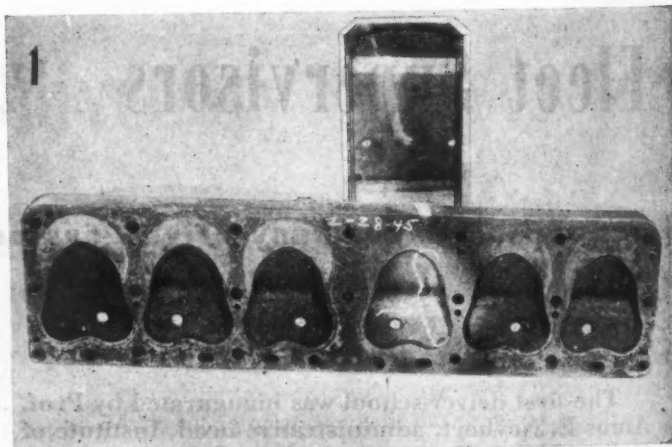
Low Cost

Salvage of

Bronze welding proves effective and economical for salvaging cracked cylinder heads but success depends on proper grooving and grit blasting along line of break

by **ALEX. F. MORTON**

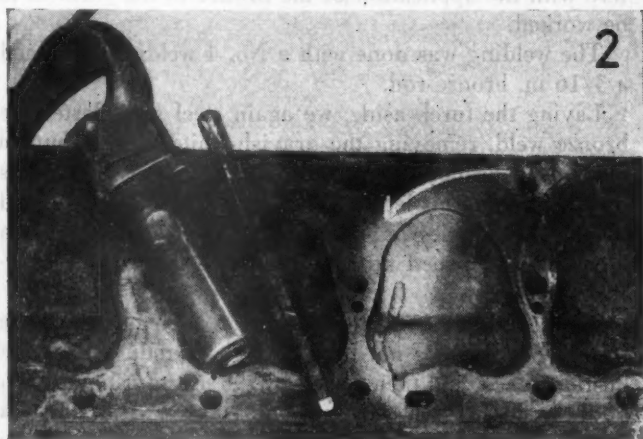
Welder, Retired, Central Motor Repair Shops, City of New York, N. Y.
Copyright 1945. All rights reserved by the author



the contrary, it is a build up though, for the unpreheated, surface heat, bronze welding of such parts—at a trifling cost when compared to the expense attached to the same job when preheated and welded by the older methods.

In all the previous articles in this series, the parts salvaged have been done in such large quantities and over

Cylinder Heads



a period of at least ten years, that the value of such repairs has resulted in the continuance of the welding method described. The data which follows, however, insofar as the cylinder heads are concerned, do not yet enter our category of "worthwhile" repairs for the reason that too few have been repaired—less than a dozen.

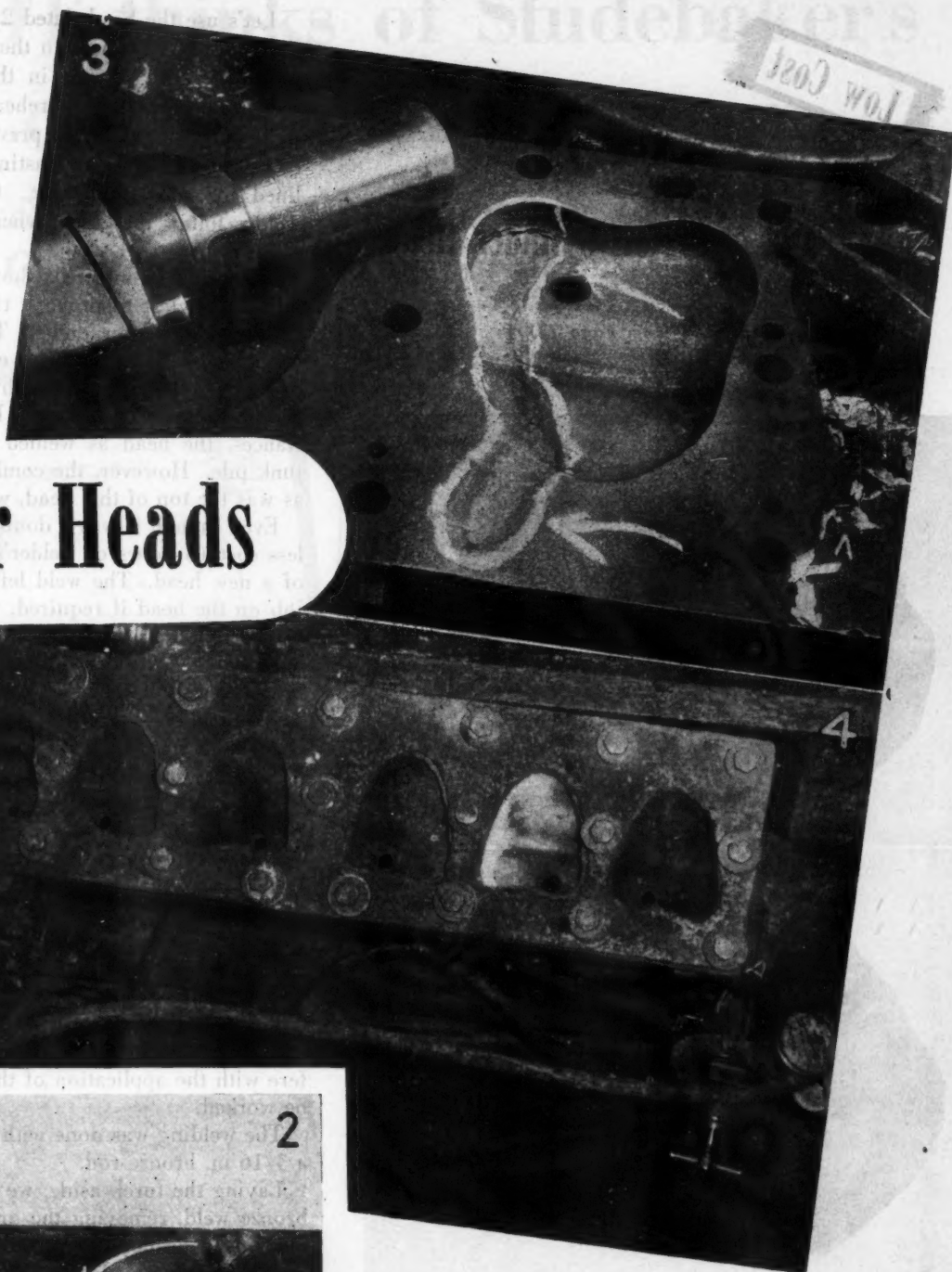


Fig. 1. Normally such heads are junked, but two cracks were welded (see one in mirror, one in dome) without preheating at less cost than new one. Fig. 2. Cracks were grooved and the surface cleaned by steel grit blasting. After welding, removal of excess material with chisel sealed small holes. Fig. 3. Bronze welds adhere securely when correctly made, but may be easily removed if required, as is demonstrated with this partly removed weld. Fig. 4. Apparatus for testing cracked heads.

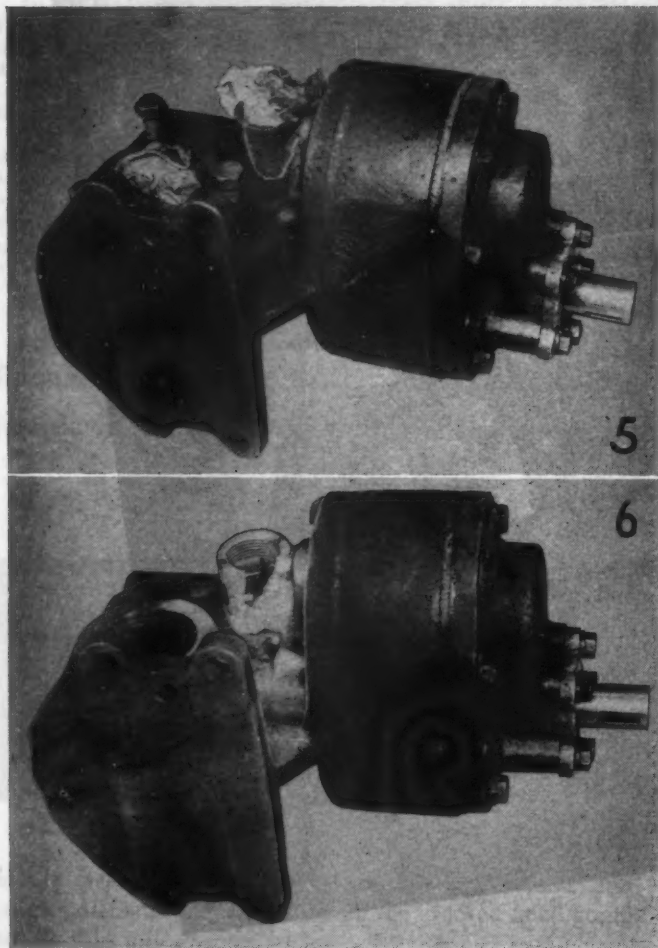
Those repaired have been in service too short a time. The first since September or October, 1944. We will call it a reliable, worthwhile repair when we have at least 50 in service at least a year. Until then it is a stop gap, to "keep 'em rollin'" until the new heads arrive.

(TURN TO NEXT PAGE, PLEASE)

Low Cost

Salvage of Cylinder Heads

(Continued from Page 73)



Figs. 5 and 6. This high pressure hydraulic pump was bronze welded successfully in $\frac{1}{2}$ hr. while fully assembled. Cap screws were threaded into the holes, rags thrust into the openings and the cracked area steel grit blasted. This pump passed a 700-lb. minimum pressure test after being welded in this way.

None of the half dozen repaired, as we will outline, has up to now, April, 1945, returned to the shop. In the writer's opinion, this repair will result in just another routine chore, when our standards for a worthwhile repair have been met. Once we get over the awe with which a repair like this usually is held, and consider a cylinder head as nothing more than just another cast iron pressure or water container, which it really is, then, and not until then, will some of the truck repair costs hit the down grade.

Let's use the head dated 2,28,'45, Fig. 1, for our first guinea pig. It came into the shop for a test, unmarked, which showed a crack in the water jacket only. This was repaired, without preheating, with bronze, and the procedure outlined in previous articles. Preparation consisted of steel grit blasting the crack previously outlined by center punching. Center punching helps the welder follow the crack, when working behind his black glasses.

The repair completed, shown by the reflection of the mirror, the test to prove it tight, showed a heavy sweat in the combustion dome. This proved to be another crack and it would not have been detected without the pressure test. Ordinarily this break would have been time and material wasted. Except for present circumstances, the head as welded would have gone into the junk pile. However, the combustion dome was repaired, as was the top of this head, without preheating.

Even though it was a double job, it was done at much less cost (3 hours of welder's time alone) than the cost of a new head. The weld left room for a face grinding job on the head if required, which in this case was not.

The repair to this dome was simplified by pinning or dogging the cylinder head to the welders bench shown in the August, 1944, issue of *COMMERCIAL CAR JOURNAL*. The crack was grooved out with a $\frac{3}{8}$ -in. round-nose chisel, driven by the air hammer, to a depth of about $\frac{3}{16}$ or $\frac{1}{4}$ in. Grooving was employed so that the crack would be at the bottom center of the groove, as shown by the similarly dome-cracked cylinder head in Fig. 2.

After chipping, which started an inch ahead of the visible crack and continued an inch beyond its visible end, another steel grit blasting removed the skin or the oxidized surface of the combustion chamber, removed the sharp edges at the top sides of the groove, and removed, uncovered or exposed particles of graphite within the structure of the cast iron caused by the chipping chisel. All of which if not taken care of will interfere with the application of the bronze to the surfaces to be worked.

The welding was done with a No. 4 welding head, and a $\frac{3}{16}$ in. bronze rod.

Laying the torch aside, we again steel grit blasted the bronze weld, removing the grayish-white film of burned out zinc deposited on the adjoining surfaces as well as the glass-like beads left by the brazing flux, which showed up any blow holes or a possible unwelded continuation of the crack opened up by the heat of the brazing operation.

Small pinholes are peened shut on such heads, as the bronze deposited is not high enough to reduce the combustion space, and then sealed by the use of a liquid seal, liquid weld or stop leak put into the head at about a 180-deg. temperature and about 30 lb. of air to force the liquid through.

On the heads that are "machined" by the welder, with a flat or/and a cape chisel and the air hammer, the chisels do the peening and close up any pin holes so that a sealing liquid is not required.

Yes, the welder does the machine work. His air chisels ride the hills and valleys of the roller coaster surface without trouble or much loss of time. In the chiseling operation a word of caution must be inserted here. Note

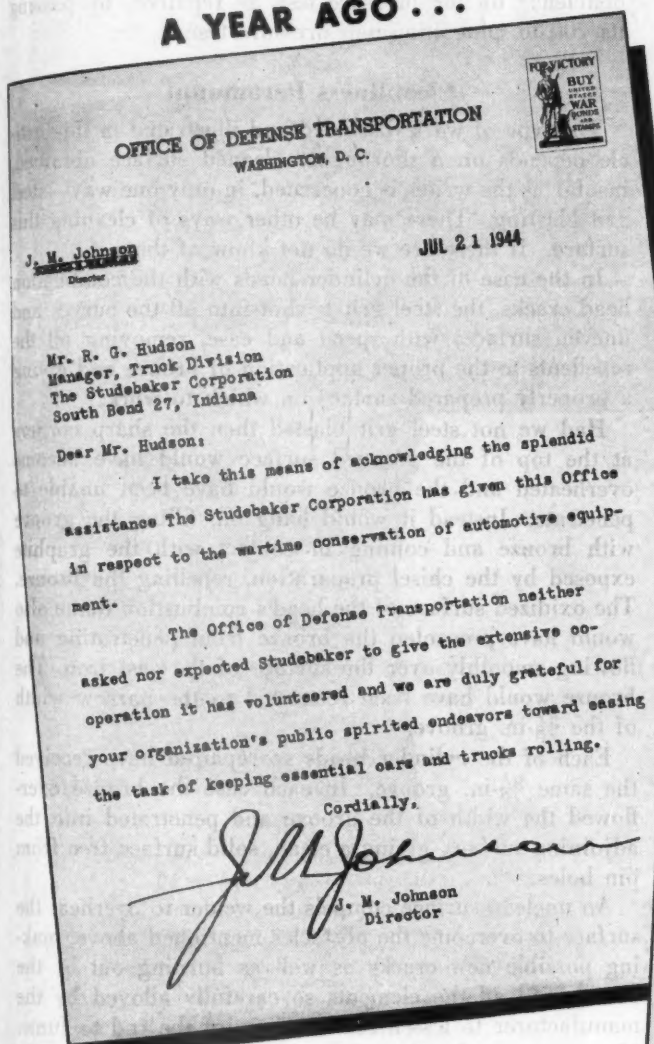
(TURN TO PAGE 76, PLEASE)

(Advertisement)

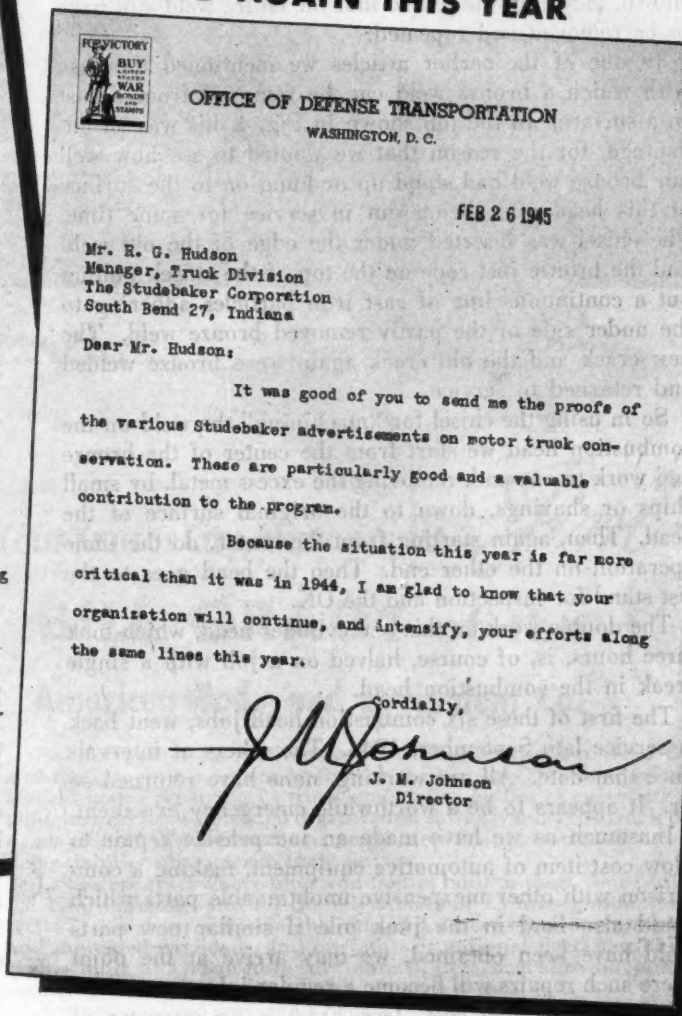
What ODT thinks of Studebaker's truck conservation program

Two letters from Col. J. Monroe Johnson, Director,
Office of Defense Transportation

A YEAR AGO . . .



AND AGAIN THIS YEAR



STUDEBAKER'S wartime activities in advocating and effectively aiding motor truck conservation has been highly commended not only by the Office of Defense Transportation and other government agencies, but also by many thousands of private and for-hire truck operators. Over 450,000 of Studebaker's handbooks on the care and maintenance of delivery trucks and farm trucks are now in use. For free sample copies, see any Studebaker dealer or write Studebaker, Truck Division, South Bend 27, Indiana.

Studebaker
PEACETIME BUILDER
OF FINE CARS AND TRUCKS

Wartime builder of Wright Cyclone engines for the Boeing Flying Fortress—heavy-duty Studebaker military trucks—Weasel personnel and cargo carriers

Low Cost Salvage of Cylinder Heads

(Continued from Page 74)

the small shavings or chips of bronze below the chisels on the head shown in Fig. 3. Taking off more than shown, may ruin the job so that the entire weld will have to be removed and repeated.

In one of the earlier articles we mentioned the ease with which a bronze weld can be removed from a cast iron surface. In the job shown in Fig. 4 this was an advantage, for the reason that we wanted to see how well our bronze weld had stood up or hung on to the surface of this head after being out in service for some time. The chisel was inserted under the edge of the old weld and the bronze just rode on the top of the chisel, pulling out a continuous line of cast iron particles adhering to the under side of the partly removed bronze weld. The new crack and the old crack again were bronze welded and returned to service.

So in using the chisel for "machining" the weld on the combustion head we start from the center of the bronze and work to one end, removing the excess metal, by small chips or shavings, down to the original surface of the head. Then, again starting from the center, do the same operation on the other end. Then the head goes to the test stand for inspection and the OK.

The double work on this one cylinder head, which took three hours, is, of course, halved on a job with a single break in the combustion head.

The first of these six combustion head jobs, went back in service late September, 1944. The others at intervals since that date. All are working, none have returned so far. It appears to be a worthwhile emergency expedient.

Inasmuch as we have made an inexpensive repair to a low cost item of automotive equipment, making a comparison with other inexpensive unobtainable parts which would also land in the junk pile if similar new parts could have been obtained, we may arrive at the point where such repairs will become a regular job.

Low cost or high cost, Jack Frost is no respecter of cast iron parts lacking protection against has handiwork when the temperature drops below the freezing point. So whether it is a cylinder head or a boiler it usually arrives in the welding shop as junk. It may still be junk when the welder gets through with it, depending on the procedure used to reclaim it.

However, few pieces go to the junk pile if the repair is made with the unpreheated bronze welding method.

Other items of junk salvaged by the same procedure include street flushing impeller housings, of which about a dozen have been returned to service working under about 40 lb. cold water pressure. Some had both the

bottom as well as the top half repaired the same way. Fig. 5 shows a high pressure hydraulic pump, the unit that hoists loaded dump bodies, that failed to pass its minimum pressure test after having been thoroughly overhauled, owing to a small crack and a few pin holes, in the section outlined by chalk.

Fully assembled as it was, we stuck cap screws into the threaded holes and rags and waste into the other openings. Then we steel grit blasted the spot, removed the rags and waste, and inserted a plug in the threaded opening to maintain alignment. Next, the marked area was bronze welded and on its way in half an hour. Fig. 6 shows the finished job. It made up its 10 per cent deficiency on the pressure test, as repaired, by passing its 700 lb. plus minimum pressure test.

Cleanliness Paramount

The type of work discussed and illustrated in this article depends on a thoroughly cleaned surface obtained, insofar as the writer is concerned, in only one way—steel grit blasting. There may be other ways of cleaning this surface. If there are we do not know of them.

In the case of the cylinder heads with the combustion head cracks, the steel grit is shot into all the curves and uneven surfaces with speed and ease, removing all the repellents to the proper application of bronze and giving a properly prepared surface on which to work.

Had we not steel grit blasted then the sharp corners at the top of the grooved surface would have become overheated and the bronze would have been unable to penetrate. Instead it would hang on, filling the groove with bronze and coming in contact with the graphite exposed by the chisel preparation, repelling the bronze. The oxidized surface of the head's combustion dome also would have prevented the bronze from penetrating and flowing smoothly over the surface of the cast iron. The bronze would have been restricted to the narrow width of the $\frac{3}{8}$ -in. groove.

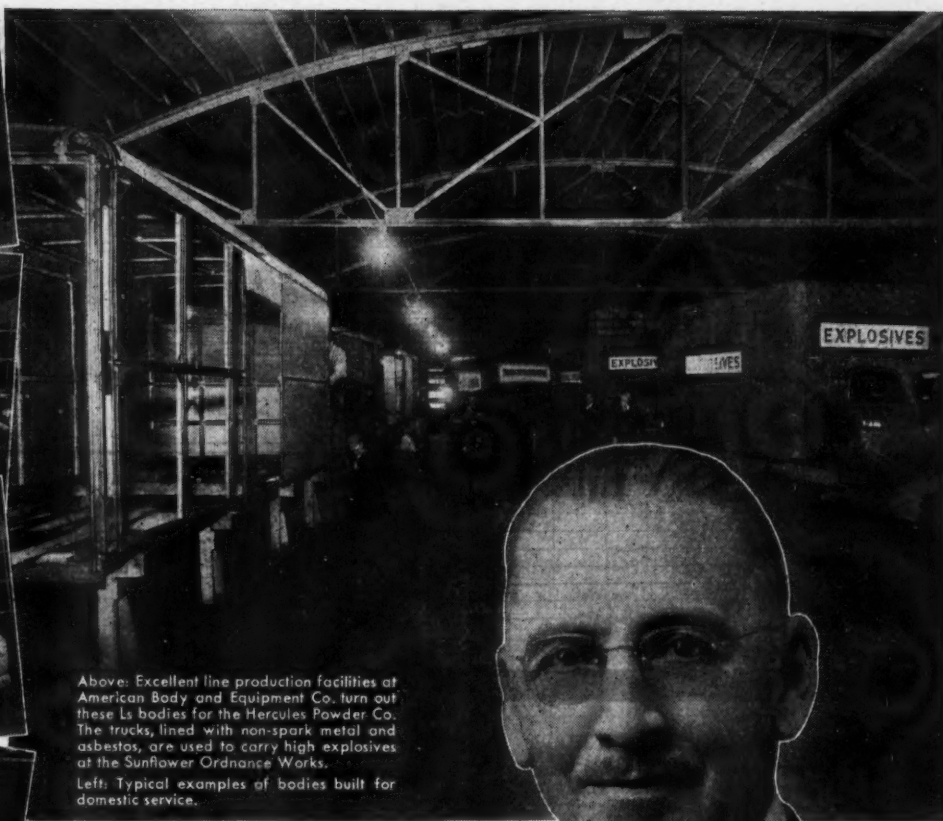
Each of the cylinder heads so repaired have received the same $\frac{3}{8}$ -in. groove. In each case the bronze overflowed the width of the groove and penetrated into the adjoining surface, giving a clean, solid surface free from pin holes.

An unclean surface compels the welder to overheat the surface to overcome the obstacles mentioned above, making possible new cracks as well as burning out of the bronze rod all the elements so carefully alloyed by the manufacturer to lessen the tendency of the rod to fume. Moreover, overheating defeats the unpreheating technique.

While all bronze rods will do some fuming, regardless of who the manufacturer happens to be, and, likewise, some fluxes also add to this complaint, the main cause lies in using too small a rod for the size welding head used, or too large a welding head for the thickness of the material being worked on. Furthermore, a not unusual complaint, and likewise well founded, is that of the machinist who complains that the bronze has hard spots in the filled hole that he must drill and tap and, therefore, he would much rather prefer filling the hole with cast iron, which can not always be done without preheating.

Lacking the confirmation of a metallurgist on this condition, the welder can only guess that, inasmuch as the

(TURN TO PAGE 80, PLEASE)



Above: Excellent line production facilities at American Body and Equipment Co. turn out these Ls bodies for the Hercules Powder Co. The trucks, lined with non-spark metal and asbestos, are used to carry high explosives at the Sunflower Ordnance Works.

Left: Typical examples of bodies built for domestic service.



W. J. Grady, American Body and Equipment Co.

Your Kansas City, Missouri, **Ls** *Jim**

BILL GRADY of the
American Body and Equipment Co.

There are 92 "Ls Jims" throughout the country.
Do you know your local Ls builder?

"Jim," a neighbor of yours, was chosen an Ls body builder because of his ability to handle your requirements intelligently—whether you need one or a thousand truck bodies. Your "Jim" knows local conditions and regulations thoroughly and can design a body to meet your exact individual requirements. Unhindered by shipping problems, he makes speedy deliveries and does a factory job of repairs overnight.



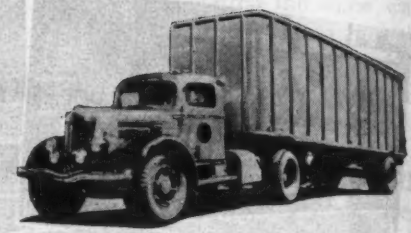
LINDSAY
Ls
STRUCTURE

U. S. Patents 2017629, 2263510, 2263511
U. S. and Foreign Patents and Patents Pending

DISTRIBUTORS AND DEALERS THROUGHOUT THE COUNTRY

SERVICE INSPECTION WORK SHEET TYPE SYMBOL _____

DATE	TIME	DESCRIPTION	DATE	TIME	DESCRIPTION
45	A	Check rear springs and tighten bolts.	38	C	Check brake lining thickness.
46	C	Inspect spring shackles.			Front left _____ Right _____
47	C	Inspect universal joints.	39	A	Adjust brakes.
48	B	Tighten flange bolts.	40	A	Check for leaks in brake system.
49	A	Check transmission and rear axle for oil leaks.	41	A	
50	C	Jack up rear end and check rear axle for play and adjustment.	42	B	
51	C	Check transmission for play operation and noise.	43	B	Inspect and tighten fifth wheel and mountings.
52	A	Check parking brake and adjust brake.	44	A	
53	B	Inspect radiator hold down bolts.	45	A	Test all lights.
54	B	Inspect condition of motor mountings.	46	A	Check horns.
55	C	Grease speedometer cable.	47	C	Check cab hold down bolts.
56	E	Clean and repack front wheel bearings. Last Previous Date _____ Miles _____	48	B	Check doors, door locks and window regulators.
57	E	Clean and repack rear wheel bearings. Last Previous Date _____ Miles _____	49	B	Check fenders, hood, running board, etc.
			50	C	Check paint and cab condition.
			51	E	Check cab heater for operation.
			52	E	Check tire extinguisher.
			53	E	Last checked.



by AVERY NELSON

Service inspection sheet for each of the periodical inspections; 11 x 8 1/2 in. Above is the reverse side

SERVICE INSPECTION WORK SHEET TYPE SYMBOL _____

INSPECTION DUE—MILEAGE _____ DATE _____

TRACTOR NUMBER _____

DATE PERFORMED _____

FOR PREVIOUS PERIOD—GASOLINE MILES PER GALLON _____ OIL MILES PER QUART _____

SPEEDOMETER READING _____

DATE	TIME	DESCRIPTION	DATE	TIME	DESCRIPTION
1	A	Air Cleaner, Breather Tube and Breather Cap. Remove and clean.	19	B	Check Condenser Capacity MPD Resistance Insulation
2	B	Carburetor—remove plugs and blow.	20	A	Drain and clean Fuel Pump Bowl and Carburetor Strainer
3	A	Belts, Air Compressor and Fan. Inspect and adjust tension.	21	A	Check Fuel Pump Vacuum Pressure
4	A	Inspect and fill radiator, and check cooling system for leaks.	22	D	Remove drain plugs from fuel tanks to drain water and dirt.
5	B	Tighten Water Pump Gland Nut and Hose	23	A	Inspect fuel system for leaks.
6	B	Tighten Cylinder Head, Manifold, Governor and Carburetor Flange Bolts.	24	A	Warm up motor thoroughly.
7	A	Remove Spark Plugs—clean, set and test.	25	A	Check operation of Manifold Heat Valve.
8	B	Check compression with throttle open and engine warm.	26	A	Check operation cooling water thermostat.
		Previous 1 2 3 4 5 6	27	A	Check and record oil pressure hot. At Idle Speed.
9	A	Check Flare Pots and refill.	28	A	Check and record generator charging rate. At Maximum Speed.
10	B	Check Generator Brushes and clean Commutator if necessary. Check Generator mounting and Pulleys for looseness.	29	A	Air Brake cut-out pressure. Lbs.
11	A	Storage Battery. Hydrometer reading 1 2 3. Battery capacity _____ Cranking voltage _____	30	A	Heat Indicator reading.
12	A	Check Distributor resistance and point condition.	31	A	Check all gauges and instrument lights.
13	A	Check Distributor dwell angle. Adjust if necessary.	32	A	Adjust valves.
14	B	Check timing with timing light.	33	B	Check governor speed and adjust.
15	B	Inspect Ignition, Starter and Generator connections.	34	B	Check idle speed and adjust idle with vacuum gauge and combustion meter. Idle speed _____ Vacuum _____ Mixture _____
16	B	Check Starter Brushes and Commutator.	35	A	Check and adjust Clutch Pedal.
17	C	Check Generator and Voltage Regulator Output. Cut-out Voltage _____	36	A	Drain Air Tanks.
18	B	Check Coil.	37	E	Flush Cooling System. Previous Date _____
			38	B	Check Front Wheel Bearing adjustment.
			39	C	Inspect Steering Knuckle Pins for looseness.
			40	A	Tighten Front Spring U Bolts.
			41	A	Inspect Steering, check play in Wheel.
			42	E	Inspect Drag Link, Tie Rod and Steering Arms for looseness or out of alignment.
			43	B	Tighten all Wheel Nuts.
			44	C	Check Rear Wheel Bearing adjustment.
					Tighten Axle Shaft Nuts or Flange Bolts.

ABC of One-Man Fleet Maintenance

TEN valve jobs on 16 tractors in three years—units that have never had the head off until 100,000 miles and then only for a head gasket—an absolute minimum of breakdowns on the road. That's the maintenance record of the Syracuse branch of Pacific Transportation Lines, Inc.

This fleet operates tractors that look as though they had been but six months out of the factory. A compressor chain or belt may break when the snow packs in, or a fuel pump quit on the road. But that's about all. These tractors pile up 75,000 miles a year, and they do it with little mechanical difficulty.

Inspections are the answer. Inspections and the co-operation of drivers, who had rather have the tractors repaired in the garage than sit out on the road somewhere "Catch the minor things and they won't become

major," says John J. Lalor, Syracuse manager for Pacific. "We believe in doing a thorough job when it comes to inspecting equipment. If a part is wearing down to an unsafe degree we want to know about it in advance."

The tractors are given what is termed an A inspection at 3000 miles or every 28 days, whichever comes first. Every detail is checked off on a service inspection work sheet—and really checked.

Take a look at the A inspection for the fleet shown on the forms in Figs. 1 and 2. Check air cleaner, breather tube and breather cap and clean; inspect belts, air compressor and fan; check cooling system for leaks; clean spark plugs; check flare pots and battery; check distributor dwell angle; drain and clean fuel pump bowl and carburetor strainer; check fuel pump pressure and (TURN TO PAGE 80, PLEASE)

This sign means...
**FACTORY
 BRANCH
 SERVICE!**



WHEN TROUBLE HITS, it's good to know that no matter where you are, you are near a Trailer service station which displays this sign. It designates a *Factory Branch*—a unit of the same Trailer manufacturer who built your Fruehauf. It specializes in Trailer servicing exclusively!

In fact, every service man in the Fruehauf nation-wide organization is a Fruehauf Trailer

Company employee, subject to factory training and factory standards of workmanship.

There are nearly 60 of these Fruehauf Factory Branch Service Stations. Each one, a "factory" in itself, can in most cases get your job rolling in short order—regardless of make.

It pays to trust your Trailer to specialists!



Well-stocked parts departments in all Fruehauf Branches are the result of an exacting distribution control system. Fruehauf parts are always quickly available.



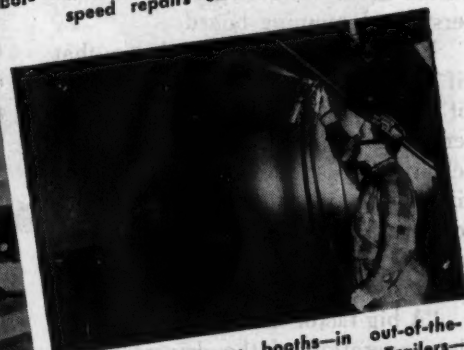
Equipped with elevated platforms built especially for Trailer repairs, Fruehauf mechanics are prepared with modern tools and labor-saving devices to speed work.



Where parts can be reworked satisfactorily—the fully-equipped machine shop goes to work. Here parts are often machined to speed repairs on foreign-make Trailers.



Specialized equipment and men are required to handle Tank-Trailer repairs. Close inspection is made by both mechanics and service managers before jobs are O.K.'d.



Specially-built spray booths—in out-of-the-ordinary size to handle the biggest Trailers—are part of Fruehauf Factory Branch equipment—ready to serve you when needed.

World's Largest Builders of Truck-Trailers

FRUEHAUF TRAILER COMPANY

DETROIT 32

Service in Principal Cities

FRUEHAUF

*"Engineered
 Transportation"*
 —Reg. U. S. Pat. Off.

TRAILERS

ONE-MAN MAINTENANCE

(CONTINUED FROM PAGE 78)

vacuum; inspect fuel system for leaks; warm up motor and check operation of manifold heat valve and cooling water thermostat; check oil pressure and generator; inspect brakes and lights; adjust valves; check clutch pedal and drain air tanks; inspect steering and front end; check transmission; adjust parking brake and check horn. This is in addition to a grease job and oil change.

Pacific hauls under contract for Atlantic & Pacific Tea Co. It operates 40 tractors out of Buffalo where the main office is situated. The units haul an average load of 10 tons over most of New York state and northern Pennsylvania.

Tractors receive an AB inspection at 6000 miles. In addition to the A, the B inspection involves pulling the plugs and cleaning the carburetor; tighten water pump connections; tighten cylinder head, manifold, governor and carburetor bolts; check compression with throttle open and engine warm; clean generator brushes; check timing; inspect ignition, starter and generator connections; check starter brushes; check coil; check condenser; check governed speed, idle speed and adjust idle with vacuum gauge and combustion meter; check rear wheel bearing adjustment; inspect universal joints, radiator bolts and motor mountings; inspect fifth wheel and mountings; check doors, window regulators, fenders, hood, running board.

Pacific operates on the theory that if a tractor is right when it goes out it will come back under its own power. Unless Neil Hartung, chief mechanic and the man who does the inspecting, is satisfied that the vehicle is right it doesn't go out. There are 14 drivers and two extra units for just such emergencies.

"A big factor in truck maintenance is cooperation of the drivers," said Lalor. "When a man comes to work for us he is given a tractor, and from then on that is his tractor. Nobody else drives it. If he knows this he is more likely to report minor mechanical difficulties. A man who drives a different tractor every day will let the next guy report the trouble."

Pacific drivers leave a note on the hook for the mechanic if something isn't working just right. They take

an interest in their own outfits. The mechanic catches odds and ends that he might not get until the next regular inspection.

Drivers average 10 years with the company and they take pride in the appearance of their tractors. They cover the same routes every day, know all the bumps on the roads, winter or summer.

Another A inspection is made at 9000 miles and ABC at 12,000. Listed under C are these operations: Check generator and voltage regulator; tighten front spring U bolts; tighten axle shaft nuts; check rear springs; inspect spring shackles; jack up rear end and check rear axle for play; check transmission for noise; grease speedometer cable; check brake lining thickness; inspect cab hold down bolts and check paint and cab condition.

The A inspection at 15,000 is followed by ABE at 18,000. E involves flushing the cooling system; tightening all wheel nuts; clean and repack front and rear wheel bearings; check cab heater and fire extinguisher. The tractors get an AB at 21,000, A at 24,000 and ABCD at 27,000. Inspection D calls for removing drain plugs from fuel tanks to drain water and dirt. Then the process begins again.

Pacific does all its own mechanical work with the exception of fender repairs, bent frames or reboring jobs. In case of the latter the motor is pulled down and the block sent out.

Hartung keeps this fleet in running order with one helper. He has been with the company 10 years and saw the tractors come in new. Tires are closely inspected for cuts and bruises and if they don't pass, a tire man is called in. Fuel pumps are rebuilt unfailingly at 20,000 miles, new spark plugs installed and transmission grease changed.

The unusual record on valve jobs is due not only to rigid inspections, but to use of a lubricant in the gasoline. Lalor has demonstrated to his own satisfaction that a lubricant reduces carbon to a marked degree.

Pacific finds that a large stock of parts are unnecessary because only one make of equipment is used. The fleet is standardized and the parts interchangeable. This is a big help in truck maintenance.

END

(Please resume your reading on P. 82)

LOW COST SALVAGE OF CYLINDER HEADS

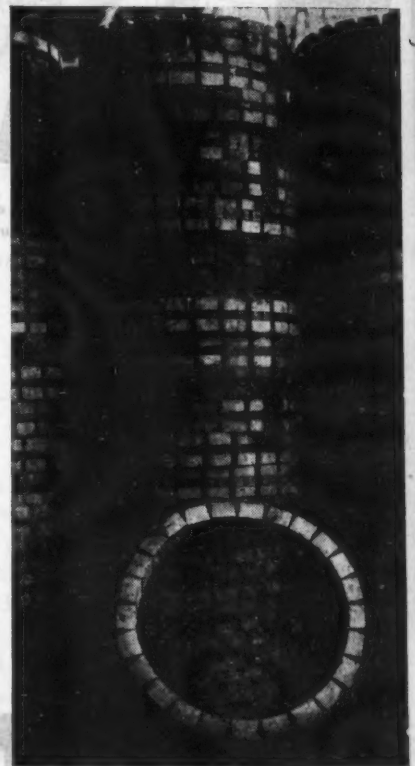
(CONTINUED FROM PAGE 76)

Type 2, A.W.S. grouping of bronzes, contains both small quantities of iron and manganese, during the excessive heating of the base metal and the weld metal melting into the hole to be filled, these two ingredients become separated or detached from their alloyed state and collect to form the hard spots of which the machinist rightfully complains.

The remedy then is plain. Steel grit blasting is the "Siamese twin" of bronze welding cast iron. It can no more be separated than can the twins. It makes possible all the satisfactory work, especially on the jobs shown in this article, which otherwise would be junked or done with a more expensive method. A properly cleaned surface gives a surface requiring less heat which, in turn, reduces the fumes of the rod, prevents the formation of hard spots, and makes possible the unpreheated bronze welding technique. It's a simple case of one hand washing the other.

END

(Please resume your reading on P. 78)



Stacks of wooden tires captured recently by the Allies. They were used on German army equipment

THE TOUGHEST JOBS ARE YET TO COME...

Long ago, America recognized the special fitness of Mack trucks for tough, heavy hauling. The War has brought added luster to the Mack reputation—both at home where pre-war Macks are setting amazing records of enduring reliability—and overseas with the Army, where Macks have

worked miracles moving giant loads of fighting supplies over great distances. With Peace and reconstruction will come even longer and harder hauls all over the world.

The tougher the jobs become, the greater will be the fame of Macks.



★ BUY THAT EXTRA WAR BOND TODAY ★



Mack Trucks, Inc., Empire State Building, New York 1, N. Y. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.; Long Island City, N. Y. Factory branches and dealers in all principal cities for service and parts.

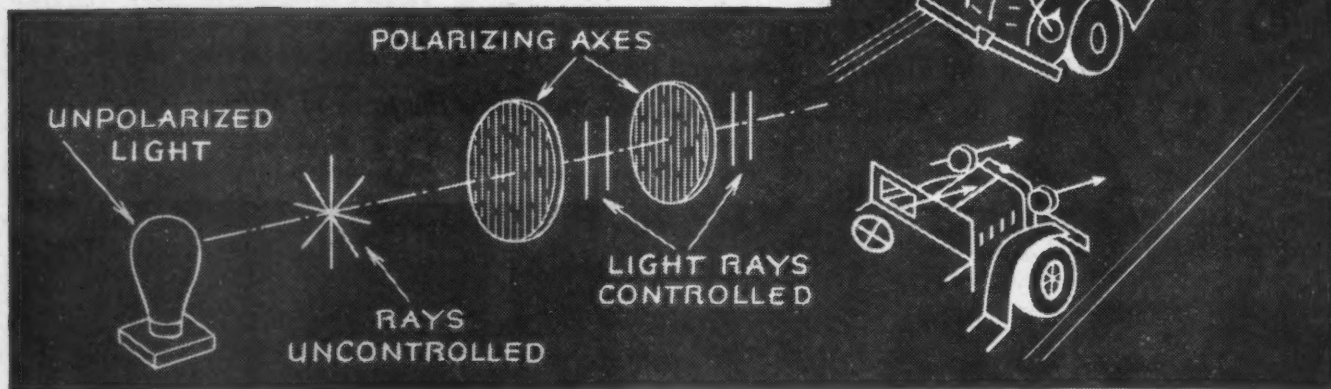
Mack

TRUCKS
FOR EVERY PURPOSE
ONE TON TO FORTY-FIVE TONS



Performance Counts!

"EYEING the FUTURE"



Uncontrolled light radiates beams in all directions. Polaroid screens control rays as shown at left. Right. Vehicles would have windshield viewing screens and headlight polarizers. Own light would be visible, oncoming light deflected or absorbed

Prospects of Eliminating Headlight Glare

Of many solutions to night driving's greatest menace, Polaroid system is most promising; would require major electrical changes

by JOSEPH GESCHELIN

Commercial Car Journal, Detroit Technical Editor

ANYONE who pounds the road at night is plagued by the dazzle of oncoming headlights. The glare is even worse in bad weather when rain, snow or sleet provide the facets for mixing up the beams of light. This has been a headache to vehicle manufacturers and to many scientists called upon from time to time to find a solution.

If every vehicle on the road—and that would mean about 30 million—had properly aimed headlamps close-

ly regulated as to voltage, and if they all had polished lenses and clean lamps, there would be some measure of relief. But even then there is no control either of the road or of the vehicle that carries the headlamps. Irregularities of the road keep the lamps moving up and down; sharp turns throw the intense beam right into the eyes of the driver on the other side, dips or grades throw the beam off the road and into the path of oncoming cars. The chances

are that these things will be with us for good.

Of the many solutions offered in recent years, the most promising, at least as a possibility, is the Polaroid system. Several years ago there was quite a furore about Polaroid but it simmered down when the Polaroid people went to work on applications for the war. It's heartening to learn, though, that a lot of work is being done under the surface to learn more about this system and what can be done to utilize it.

What is Polaroid light-polarizing material? Simply stated, it's a special proprietary plastic compound produced in any desired shape. Its operating principle is based upon its control of light vibrations.

Unpolarized or ordinary light consists of vibrations in all directions perpendicular to the direction of travel of the light. While the reflector concentrates the beam and gives it directional properties, the light vibrations are unaffected. However, when light passes through a polarizing substance all the light vibrations are absorbed except that portion which radiates in one given direction perpendicular to the direction of travel. In effect, this implies the slicing off of the vibrations in all planes but (TURN TO PAGE 134, PLEASE)



EXIDES—IN THE FAR-AWAY PLACES ... AND HERE AT HOME ...

On the battle fronts, behind the lines, and on the streets and highways of every state, hundreds of thousands of Exide-equipped trucks are engaged in the greatest movement of goods that motor transportation has ever known. It adds up to many billions of ton-miles per year; and three-fourths of it is war freight.

The successful handling of this vast tonnage, when faced with so many handicaps, is an achievement of which fleet owners can well be proud. Formidable as these handicaps are, they have been more than matched by the skill and perseverance of the maintenance man, who is doing an exceptionally fine job. He has been helped to no small degree by the dependability, long-life and ease of maintenance of his Exide Extra-Duty Batteries.

THE ELECTRIC STORAGE BATTERY COMPANY, Phila. 32
Exide Batteries of Canada, Limited, Toronto



Exide
EXTRA DUTY
BATTERIES

THE 1945 legislative year thus far has been marked with rather substantial gains for highway users particularly with reference to liberalization of motor vehicle sizes and weights. The cost of automotive operation will be increased by gasoline tax boosts in Idaho, Iowa and Kansas but there has been a notable absence this year of the customary perennial campaigns for punitive taxation and regulation of commercial motor vehicles.

While substantial progress in the elimination of state highway barriers has been made, regulation and taxation by municipalities has increased in recent years, particularly in the southern states. The spread of such activity by municipalities might well produce more serious obstacles to highway transportation than resulted from state trade barriers.

The peak of the legislative season has passed and the following 20 state sessions had adjourned sine die by April 21: Arizona, Arkansas, Colorado, Delaware, Idaho, Indiana, Iowa, Kansas, Maryland, Montana, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Oregon, South Dakota, Tennessee, Utah, Vermont, Washington, West Virginia and Wyoming. Georgia legislature recessed from March 3, 1945, to Jan. 7, 1946.

Sizes and Weights

On the sizes and weights front Arizona increased maximum permissible width from 96 in. to 102 in. Instead of Arizona's gross weight being determined by total sum of permissible weights on units it is determined now by the formula 800 (L plus 40) if the distance between the first and last axles is over 18 ft. and 750 (L plus 40) where the distance is 18 ft. or less. Certain vehicles in operation on the effective date of the law are permitted higher gross weights until Jan. 1, 1955.

Colorado increased number of vehicles permitted from two to three and increased maximum length from 50 to 60 ft. The weight of a two-axle single unit was increased from 24,000 to 30,000 lbs. A maximum gross weight of 63,000 lbs. was eliminated and gross weight is now determined by the formula 750 (L plus 40) instead of 700 (L plus 40).

Iowa increased height from 12 ft.

Size and Weight Gains Made by Highway Users

Many states liberalize maximum gross weights and dimensions; several boost gas taxes; action on reciprocity mixed

by P. D. McLEAN

Acting Director, National Highway Users Conference

to 12 ft. 6 in.; length of single unit from 33 to 35 ft., and axle weight from 17,000 to 18,000 lbs. The maximum gross weight is increased from 28,000 lbs. plus 700 lbs. per ft. for each foot of axle spacing to 30,000 lbs. plus 750 lbs. per ft. for each foot of axle spacing.

Kansas eliminated the provision that a tractor and semi-trailer shall be considered one vehicle for the purpose of determining lawful length, thereby increasing length from 35 to 45 ft.

Minnesota increased gross weight from the formula 700 (L plus 40) to 750 (L plus 40) if axle spacing is 18 or more ft. and provides 650 (L plus 40) if axle spacing is less than 18 ft.

Nebraska Law Extended

Nebraska extended until March 1, 1947, provisions of law that would have expired March 1, 1945, permitting gross weight according to the formula 750 (L plus 40) if axle spacing is over 18 ft. and 650 (L plus 40) if axle spacing is 18 ft. or less. At the expiration of this period maximum gross weight would revert to the maximum of 48,000 lbs.

New Hampshire increased length of single units from 33 to 35 ft.

North Carolina increased length of combinations from 45 to 48 ft. and increased maximum permissible weight on vehicles with four or more axles from 40,000 to 50,000 lbs.

North Dakota increased length of combinations from 40 to 45 ft. Gross weight is increased from maximum of 40,000 lbs. to 750 (L plus 40) where the axle spacing is over 18 ft. and 650 (L plus 40) when the distance is 18 ft. or less.

Oregon extended until Aug. 1, 1947, provisions permitting issuance of emergency permits for trucks with gross weight according to formula 750 (L plus 40) where the axle spacing is over 18 ft. and 650 (L plus 40) where the distance is 18 ft. or less. The state's permanent law limits gross weight to 54,000 lbs.

The Pennsylvania legislature passed, and the Governor was expected to approve, a bill which made permanent the "duration" weight increases allowed by the 1943 Legislature. These boosted maximum gross weight for two-axle trucks from 26,000 to 30,000 lb.; three-axle trucks, 36,000 to 40,000; tractor semi-trailers from 39,000 to 45,000, and upped axle load from 18,000 to 20,000 lb.

(TURN TO PAGE 87, PLEASE)

SIZE & WEIGHT GAINS BY HIGHWAY USERS

(CONTINUED FROM PAGE 84)

Tennessee increased axle weight from 16,000 to 18,000 lbs. with gross weight fixed by the formula 700 (L plus 40) subject to a maximum limit of 42,000 lbs. Single unit length was increased from 27 to 35 ft. and that of combinations from 35 to 45 ft. Height was increased from 12 ft. to 12 ft. 6 in.

Vermont increased height from 12 ft. to 12 ft. 6 in.

Washington now permits the issuance of special oversize permits authorizing 14 ft. width on two-lane state highway, 22 ft. width on three-lane state highway, and 32 ft. on four-lane state highway. Oversize permits may authorize 22,000 lbs. on a single axle or 40,000 lbs. on a group of axles spaced less than 10 ft. apart.

Wyoming increased length of tractor semi-trailers from 45 to 50 ft. and that of other combinations from 45 to 60 ft. The maximum gross weight limit of 48,000 lbs. was eliminated and gross weight is determined by the formula 850 (L plus 40) instead of 600 (L plus 40).

Proclamations Made Law

Several of these states including Colorado, Iowa, North Carolina, North Dakota, Tennessee and Vermont, had liberalized legal sizes and weights by proclamation, substantially in accordance with these provisions now enacted into law.

Both Houses of the Indiana legislature passed a bill to increase height from 12 ft. to 12 ft. 6 in., length of tractor semi-trailer from 40 to 45 ft., and other combinations from 45 to 60 ft., axle weight from 16,000 to 18,000 lbs. and gross weight from 700 (L plus 40) to 750 (L plus 40). This measure was vetoed by the Governor.

Size and weight increases are still under consideration in the following states: California, Connecticut, Delaware, Maine, Massachusetts, Michigan, New Mexico, Ohio and Texas. The Ohio measure is in Conference Committee after having passed both houses.

Gas Tax Changes

Gasoline tax increases have been enacted in three states: Idaho, Iowa and Kansas. The 1 cent increase in Kansas with no exemptions is not to become effective until after the end of the war and is to be effective only so long as needed to meet tax anticipation warrants. The Governor of Iowa had suggested that no new additional taxes be levied at this session of the legislature but a statement on the occasion of his signing the 1 cent gas tax increase measure congratulated the legislature "upon devoting this fund to secondary roads and roads in cities and towns." A bill increasing the gas tax 2 cents until Dec. 31, 1946, has passed both houses of the Oklahoma legislature.

Gas tax increase proposals are pending in the following states: California, Connecticut, Massachusetts, Michigan, Missouri, Ohio and Texas. Proposed increases in Colorado and North Dakota failed with adjournment. The New York legislature extended the 2 cents temporary tax for another year. West Virginia extended the 1 cent additional gas tax for two years, and a bill in Pennsylvania to make the temporary 1 cent gas permanent has been amended to extend it for only two years.

Anti-diversion amendments have been passed in two states—Indiana and Tennessee, but the Tennessee resolution must be repassed by the 1947 legislature before submission to the voters. Proposed anti-diversion amendments are pending in Illinois, Massachusetts, New Mexico, Pennsylvania, Rhode Island and Wisconsin. Montana and South Dakota both enacted laws to prevent diversion, although South Dakota now has an anti-diversion constitutional amendment. A bill to prevent diversion in Oklahoma has passed the House and

similar bills are pending in the Pennsylvania legislature.

Measures to permit political subdivisions to tax gasoline failed in Montana and North Dakota and are still pending in Illinois and Michigan.

An anti-diversion amendment was passed in Maryland and will be ready for submission at the next general election.

Reciprocity

Arkansas enacted legislation creating a Reciprocity Commission authorized to enter into reciprocal agreements with other states. Proposals for reciprocity failed in Indiana, Montana and Oregon, and are still pending in the legislatures of Connecticut, Maine and Minnesota.

Measures of General Interest

Several New York bills which would have required bumpers on trucks and trailers failed with adjournment. An Oregon measure changing the entire tax structure for commercial vehicles, with a mileage tax graduated from 3.75 mills to 17.68 mills failed to become law. A bill under consideration in Texas provides no person shall be required to pay any fee or charge for the privilege of driving or parking an automobile on any street or national highway either within or without the city limits of any municipality.

The usual large number of bills to amend the compulsory insurance law is under consideration in Massachusetts. Compulsory insurance proposals are under consideration in California, Connecticut, Illinois and Wisconsin. Such measures failed of enactment in Indiana, Nebraska, New York, Oregon, Washington and West Virginia.

END

(Please resume your reading on P. 85)

Two-way radio communication, heralded as one of the forthcoming innovations of postwar trucking, is here right now as far as Washington's Capital Transit Co. is concerned. As a safeguard against road delays, this progressive traction company recently installed 2-way radio to connect its repair trucks and mobile supervisory forces with the dispatcher's office. Here, one of the company's Mack emergency trucks is shown in action after receiving a trouble flash





VE-Day Blueprint for Reconversion

Byrnes' plan outlines military cutbacks, a limited civilian production, suspension of many control orders and travel restrictions

REGONVERSION again occupies the top position in war agency planning. Highlighted by the reconversion report of War Mobilizer James F. Byrnes, the news from all agencies is heavily weighted by post VE-Day plans.

According to present WPB plans, military expenditures will drop from the current second quarter rate of \$15,800,000,000 to \$13,900,000,000 in the first quarter after VE-Day, or a cut of 12 per cent. In the second quarter

after VE-Day the cut will be increased to 20 per cent, and by the end of the first year after VE-Day military expenditures are expected to be about 35 per cent of the current rate. WPB Chairman J. A. Krug said that the cuts will not appear as rapidly as had been planned last fall. However, other officials say that reconversion will proceed more rapidly than indicated by the above cuts.

Most of the original cuts will be made in the metals producing industries, while cuts in such items as textiles and leather will be considerably lower. Within the first year after VE-Day, according to Mr. Krug, practically all types of goods will be made, and by the end of that year the 1939 level of production should be reached.

The 1,500,000 tons of carbon steel that will be cut from military demands in the first quarter after VE-Day will be allocated to meet essential civilian needs such as

railroad cars, automobiles and trucks, automotive repair parts, public utilities equipment, construction equipment, and farm machinery. Consumer durables will have to wait until these needs are met.

As long as the war against the Japanese continues, WPB foresees continuing shortages of textiles, lumber and other forest products, leather, containers, tires and rubber products, and some metals, such as tin and lead.

(TURN TO PAGE 102, PLEASE)

SHULER AXLE PRODUCTS FOR TOWMOTOR

Everybody knows that Towmotors are among the toughest, most useful and versatile self-propelled vehicles in the world — so we, in turn, are therefore particularly glad that the Towmotor people have chosen to use tough, useful and versatile "Shuler Axle" products in *their* trucks!


The Shuler Axle Company is small enough to be very adaptable and very ambitious — large enough to give you the full benefits of mass production. That's a good combination to have in your suppliers. How about investigating us and our ability to serve you?



SHULER AXLE CO., Incorporated, LOUISVILLE, KY.

Export Division: 38 Pearl St., New York, N. Y.

West Coast Warehouse: Ford & Derby Streets, Oakland, Calif.



CCJ QUIZ

by ROBERT F. BAHL

Correct Answers on Page 154

Are you all geared up for another CCJ Quiz? This time we're asking you to answer 10 questions about gears. If you get them all right, you may consider yourself a "gear." (In the lingo of the Marines, a "gear" means a "big shot.")

You can keep score, counting ten points for each question. A score of 80 to 100 puts you in high gear. 60 to 79 shifts you into second. 40 to 59 drops you to low. Less than 40 . . . well, you're in reverse.



1

Suppose there are a total of 80 teeth on the crankshaft gear of a certain truck. How many teeth are there on the camshaft gear?

a. 40. b. 80. c. 160. d. Could be any number.

2

Something almost revolutionary in gear history recently was announced by the Michigan Tool Co. It was . . .

a. A gear without any teeth
b. A machine that cuts all the teeth of a gear at one time
c. A noiseless gear of impregnated plywood
d. A process for welding teeth onto stripped gears

3

On the ordinary vehicle, what is the gear position when the engine and the drive shaft are rotating at the same speed?

a. High c. Low
b. Second d. Reverse

4

A. Here's a simple mathematical problem that shouldn't take too long



to figure out. You have four ordinary gears in a series. Gear A meshes with gear B; gear B meshes with gear C; and gear C meshes with gear D. Gear A has 90 teeth; gear B, 75; gear C, 45; and gear D, 30. When gear A makes 60 revolutions per minute, what is the speed of gear D?

B. If gear A is revolving clockwise, in what direction is gear D revolving?

5

Can you tell us what is meant by "backlash," as applied to gears?

a. The play or slackness due to inaccurate fitting of teeth
b. The jet of oil or grease that is squeezed out as gears mesh together
c. The tendency of a gear to re-

volve in an opposing direction

d. The meshing of the wrong pair of teeth on a set of gears

6

If you were checking into the history of gears, you could trace the first gear back to . . .

a. The Ancient Egyptians
b. Archimedes
c. The 10th century Monks
d. Benjamin Franklin

7

See if you can name at least five places on a truck where gears would be used.

8

(We hope this one doesn't make you go around in circles.) There are four circles that fix the design of a gear. They are: Addendum Circle, Dedendum Circle, Base Circle, Pitch Circle. Now match these circles with the following definitions . . .

1. The circumference at the outermost edge of the gear
2. The circle formed at the points of applied pressure of two gears
3. The circle from which the tooth curve is generated
4. The circle around the bottom of the valleys or depressions in a gear



9

Which of these do you judge would be most satisfactory for automotive gears.

a. Pearlitic cast iron
b. Casehardened steel
c. Annealed steel
d. Silicon bronze

10.

There are gears and then there are gears. If you know them all, you should be able to match up these gears with their distinguishing features.

1. Cluster gears	a. Double helical gears
2. Herringbone gears	b. Gears with a screw thread
3. Crown gears	c. Gears with curved teeth
4. Annular gears	d. Two or more gears made in one piece
5. Worm gears	e. Spiral bevel gears with the pinion above or below the center of the gear
6. Helical gears	f. Gears traveling around the circumference of another gear
7. Bevel gears	g. Gears with teeth cut at an angle to the axis of the shaft
8. Spur gears	h. Rings toothed on the inner circumference
9. Planetary gears	i. Gears with the teeth projecting at a right angle
10. Hypoid gears	j. Gears with teeth cut parallel to the axis of the shaft

Close-up of finish turn operation on compression rings.

26 basic designs for best performance in your fleet

To enable you to be sure of *best* performance on every piston ring replacement job in your fleet, Sealed Power engineers have developed 26 basic piston ring designs for use in Sealed Power Individually Engineered Sets. Each set is specifically engineered to do the *best possible* job in a *particular* engine under certain conditions of cylinder wear. Sealed Power has been refining these sets over five years—has been producing rings for car, truck and engine manufacturers 33 years. For *best* results, re-power with Sealed Power motor parts. Sealed Power Corporation, Muskegon, Michigan and Windsor, Ontario.

Piston Rings, Pistons, Cylinder Sleeves, Piston Pins, Valves, Water Pumps, Bolts, Bushings, Tie Rods, Front End Parts

Buy more war bonds—and keep them! Pay \$3—get \$4!

not 2...
not 6...
but 26



SEALED POWER PISTON RINGS

BEST IN NEW TRUCKS! BEST IN OLD TRUCKS!

Tips from a Laundry on Shrinking COSTS

(Continued from Page 63)

DRIVER'S DAILY REPORT

CERTIFICATE OF MAIL RECEIPT NO. _____ TRUCK NO. 2 DATE 12-1-44

CAPACITY 5 TONS CUBIC FEET _____ GALLONS _____

PLACE CHECK (✓) IN PROPER COLUMN TO INDICATE TYPE OF OPERATION

DRIVER (PRINT)	DISTINCTION (TO)	TYPE OF OPERATION	MILEAGE	TRIP TIME			PROPERTY TRANS-PORTED	UNITS CARRIED		GROSS WEIGHT (LBS.)	NET WEIGHT (LBS.)
				START	STOP	END		OUT	IN		
1 <u>Paul</u>	<u>Seattle</u>	<input checked="" type="checkbox"/> DELIVERY <input checked="" type="checkbox"/> PICKUP	<u>427</u>	<u>8:30</u>	<u>8:45</u>	<u>8:55</u>	<u>14</u>	<u>64</u>	<u>72</u>		
2											
3											
4											
5											
6											
7											
8											
9											
10											
TOTALS											

DESCRIPTION OF WORK DONE AND DELAY OF MORE THAN 15 MIN.

DRIVER'S TIME SUMMARY

DRIVER	TIME START	TIME STOP	TIME TOTAL
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
TOTAL			

OUTSIDE EXPENSE

DRIVER	TIME START	TIME STOP	TIME TOTAL
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
TOTAL			

TRUCK TIME SUMMARY

DRIVER	TIME START	TIME STOP	TIME TOTAL
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
TOTAL			

APPROVED BY DRIVER: Brown

Date 1-13-1945

Dr. No.	License No.	Speedometer	Gas	Signature
1	<u>824</u>		<u>12</u>	<u>PERKINS</u>
2	<u>829</u>		<u>13</u>	<u>FRED C. BROWN</u>
4	<u>829</u>			
6	<u>841</u>		<u>12</u>	<u>PAUL FRUWALDT</u>
8	<u>828</u>			

Week Ending 1-13-1945

Dr. No.	Name	Gas	Mileage	Miles per Gal.	Earnings	Earnings per Mile
1	<u>Lawrence</u>	<u>49.037</u>	<u>12</u>	<u>1.08</u>	<u>9</u>	<u>4.54</u>
2	<u>Carroll</u>	<u>40.984</u>	<u>28</u>	<u>2.24</u>	<u>78</u>	<u>1.82</u>
4	<u>Lawrence</u>	<u>47.145</u>	<u>22</u>	<u>2.50</u>	<u>113</u>	<u>1.89</u>

Top, Fig. 2. Reproduction of driver's 10½ x 7 in. daily report for ODT. Included on the sheet are trip origin, destination, mileage, trip time and units carried. Fig. 3,

at left, daily gasoline dispensing record; 8½ x 7 in. Other form, Fig. 4, is same size. It is made up from daily gasoline records and submitted to the office manager weekly

new system of operation in cooperation with the Office of Defense Transportation by which they made only one call a week during which they picked up and delivered laundry. They divided Seattle up into 11 zones and 55 sub-zones and reduced the mileage on their trucks in spite of the remarkable growth of their business. With the exception of customers with established credit, the business was put on a cash basis. This step resulted in a great saving of gasoline and effort.

A large detailed map of Seattle hangs at one end of Mr. Mawer's office in the main building. It is divided into 11 sections. By consulting this chart, he can tell the district in which each salesman is working on any given day. For example, he can tell at a glance that salesman number seven is working on Monday in Laurelhurst, Tuesday in the Wallingford District, Wednesday in North Green Lake, Thursday in the Ravenna District and Friday in the University area. A miniature of the map of Seattle, Fig. 1, shows the way in which the districts are divided.

Since the company has cut down the repetition of calls to pick up and deliver isolated work, mileage has been reduced from an average of 400 to 160 miles a week.

Fred Mawer, the manager who is a former route foreman and superintendent for the company takes a route himself or goes with the drivers occasionally and makes adjustments of the districts so that the loads are fairly equalized each day. He tries to make sure that the trucks are not overcrowded on one day and only partially filled on another. For example, he may find that the load in

one district is too heavy for the assigned day, while the one in another assigned one is too light. In cases of this kind, he takes the calls from a heavy day and adds it to a lighter one. By doing this, he has found that he has saved wear and tear on tires and equipment.

When the work was too heavy on a certain day, he found that the driver would occasionally slam doors, run at an excessive speed, scrape the side walls of the tires as he pushed his truck up against the curb and waste gas as he kept his engine going while making deliveries. He also discovered that whenever the driver had too much to do on a certain day, he did not have enough time to pay individual attention to Mrs. Smith or Mrs. Jones. Furthermore, he did not have the opportunity to do the little favors that promote good will in the community.

Mr. Mawer has discovered that the drivers who are in a good humor and well paid for their efforts are in a better mood to take excellent care of their cars than when they are hurried, harried and angry. He runs the business so that his salesmen are as well paid as any in their line in the city and earn wages in accordance with their industry, initiative and selling ability. By paying the top scale to his drivers, he has found that they do not quit at the least provocation and make it necessary for him to break in new men. He maintains that frequent changes of drivers usually necessitates a waste of mileage and an added wear on equipment. By paying liberally, he gets the cream of the drivers. They are

(TURN TO PAGE 94, PLEASE)

HYDROVAC

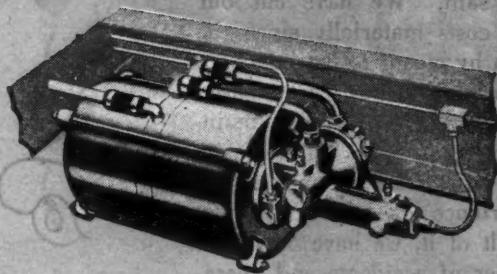
HYDRAULIC-VACUUM POWER BRAKING BY

BENDIX



PERFORMANCE
PROVEN

★
OVER A
MILLION
UNITS BUILT
BILLIONS
OF MILES OF SERVICE



A MATCHLESS RECORD OF PROOF—BY PERFORMANCE

● Hydrovac is truly the best proved product ever offered to the automotive trade. Its leadership in power-braking efficiency, advanced design, trouble-free operation and ease of installation are proved by an unrivaled record of sustained performance.

In the armed service and under every

possible condition of weather and road, Hydrovac units have delivered *billions* of miles of satisfactory service from the tropics to the arctic.

Hydrovac was deliberately designed to meet the tough tests of military service. That's why Hydrovac is *Simple*—a single compact unit... *Easy to Install*—only three tubular connec-

tions... *Trouble-Free*—moving parts sealed against dust, dirt and water—and at all times Hydrovac delivers braking power at a pedal touch assuring positive, dependable stopping.

If you are interested in the best possible power brake, investigate Hydrovac. See your B-K dealer or write the factory direct.

BENDIX AND HYDROVAC ARE TRADE-MARKS OF BENDIX AVIATION CORPORATION

Hydrovac
POWER BRAKING BY **Bendix**

BENDIX PRODUCTS DIVISION OF BENDIX AVIATION CORPORATION • SOUTH BEND 20, INDIANA

Tips from a Laundry on Shrinking COSTS

(Continued from Page 92)

usually the men who assist the mechanical department in keeping their trucks in good condition.

"Our annual depreciation of motor equipment is figured to be one-half of 1 per cent of our total volume of business or approximately 20 per cent annually against the original cost of equipment," said Mr. Mawer. "The expense for our mechanics' wages, cars, gas, oil and tires is 2.7 per cent of our total volume of business. The total costs for collection, delivery, car expense, salesmen's guarantees and commissions and mechanics' salaries is 21.5 per cent of our total volume."

The Imperial - Quality Laundry maintains a large garage and repair shop 100 by 150 ft. for its fleet of delivery trucks. When interviewed in his office, R. P. Wells, the fleet superintendent said, "We have cut our operating costs materially since the war began by means of extreme care in the operation of our trucks, based upon an intensive 12-point maintenance program. Also, I have made it a point to educate our men to see the importance of careful driving. As a result of it, we have cut down our number of accidents and operation costs.

"At the outset, I wish to bring out the fact that we treat our drivers primarily as salesmen. For that reason, if there is any reprimanding to be done for misuse of equipment, it is usually done by the manager privately or at our regular Monday sales meetings when he addresses them as a group. My work is primarily to be a kind of big brother and adviser to the men. I try to keep this relationship with them at all times. They usually resent any criticism that is levelled at them by the mechanical department, but seem to appreciate advice given in a friendly confidential manner. A firm must keep as many worries about equipment out of the mind of the salesmen as possible so that they may devote their major attention to selling."

The company has a dinner for its drivers about three times a year. After the driver-salesmen have eaten a big dinner and feel in a good humor, Mr. Wells usually gives a talk

on economical and safe driving. In addition to that, he frequently attends the weekly sales meeting which takes place every Monday morning before the men start on their routes. When he is there, he emphasizes the importance of observing traffic regulations to the letter. Among the things that he stresses are caution in backing, care in stopping at all arterial highways, the avoidance of making turns in the middle of blocks and slow driving in congested areas where there is danger of receiving dented fenders. He also points out the danger of rubbing the tires against the curb. He warns the drivers against kicking doors shut with their feet.

In addition to the dinners and meetings, he talks to each salesman individually whenever he can and uses diplomatic persuasion whenever possible. He also gives the new salesman a large amount of personal instruction on instruments on the dashboard. In fact, he tries to give them a large number of valuable pointers that make it possible for them to understand their trucks better than before. He finds that his diplomacy and the friendliness of his attitude have created a pleasant relationship between the drivers and himself. As a result of the cooperative understanding, he says that they are all trying to treat their trucks with

(TURN TO PAGE 105, PLEASE)



B. Brown.

FULL STRENGTH HORSEPOWER FOR YOUR FLEET

CASITE

**Guarantees better and smoother
performance or
double-your-money-back**



WHAT CASITE DOES

- It quickly cleans out harmful sludge deposits.
- Retards the formation of engine varnish.
- Frees sticking valves and rings.
- Makes starting easier.
- Helps oil flow smoothly and constantly to close-tolerance areas.
- Gives better and smoother performance.

THE CASITE CORPORATION • HASTINGS, MICHIGAN



CLEANS OUT MOTORS • KEEPS MOTORS CLEAN

● Send your fleet into its heavy summer schedule with full strength horsepower in *every* motor! Casite cleans out harmful sludge and gum, releases sticky valves and rings, improves lubrication... makes motors run smoother and last longer. Clean out motors and keep them clean, with Casite.

In the crankcase every oil change. Through the air intake every three months.

(A pint for all passenger cars and small trucks—10% of crankcase capacity for all others.)

CCJ NEWSCAST

250 Carriers Become Class I

Nearly 250 trucking companies developed into Class I motor carriers of property during 1944 and hence will be required to begin filing quarterly and annual reports this year, according to the Interstate Commerce Commission. The addition to the Class I list brings the total of such carriers to about 2100.

Pa. Permits 2-Deckers

A measure which will assure continuation of the right to transport new or used automobiles by motor vehicle, except in car-over-cab arrangement, after expiration date of a Dec. 31, 1945, deadline has been signed into a law by the governor of Pennsylvania.

Illinois Groups Agree on New Size and Weight Bill

Highway users and engineers in Illinois have reached an agreement as to a size and weight legislative proposal to be introduced as an administrative measure in that state. The proposed bill provides for lengths of 40 ft. for single units, 45 ft. for tractor-semi-trailers, and 50 ft. for combinations; width of 96 in.; axle weight of 18,000 lb., with 32,000 lb. for tandem axles; and gross weights ranging from 36,000 lb. to a maximum of 72,000 lb. The proposal also will contain provisions for increasing truck and bus speed limits to 45 miles per hour and for permitting 1/3 overload in cities over 20,000 population.

White Announces Appointments

Walter G. Auer, former manager of the Portland branch of the White Motor Co., has been named regional wholesale manager covering northern California and Nevada territory, with headquarters in San Francisco. Rolla W. Moore was named manager of the Portland branch, succeeding Mr. Auer. D. H. Wilson was named regional wholesale manager covering northern Idaho, with headquarters in Seattle.

Fruehauf Acquires Trombly

The Fruehauf Trailer Co. has announced the purchase of Trombly Truck Equip-

ment Co., Portland, Ore. This new addition to the firm's facilities in the northwest is part of an overall western expansion program planned to further expand services to users of trailers. The Trombly shops will operate in conjunction with Fruehauf's present plant.

Five Firms Join National Truck

Five additional members have joined the National Truck Leasing System. They are the Pennsylvania Truck Lines, Pittsburgh, Pa.; Lincoln Truck Rental Co., Buffalo, N. Y.; the Cleveland Cartage Co., Cleveland, Ohio; the U-Drive-It Co., Inc., Norfolk, Va.; and the Willett Co. of Indiana, South Bend, Ind.

5,334,621 Miles and Only 45 Accidents

450 trucks and automobiles operated by the Pittsburgh group of public utility companies within the Columbia Gas & Electric Corp., travelled 5,354,621 miles during 1944 and were involved in only 45 accidents.



New Trailmobile directors, upper left, James J. Black, vice president in charge of engineering; A. L. Struble, upper right, vice president in charge of sales. R. L. Medler, lower right, treasurer; L. R. Everhard, lower left, secretary

W. H. Adams, safety director of the Pittsburgh group, said that this was the lowest accident record in nearly 20 years of safety activity within the group which comprises the Manufacturers Light & Heat Co., the Natural Gas Co. of West Virginia, the Cumberland & Allegheny Gas Co. and the Gettysburg Gas Corp.

90% Synthetic for Army

The 10.00 cross section, Mud-Snow tire will hereafter be made with 90 per cent synthetic rubber as compared with 70 per cent used in the last few months. After severe tests, the Army and Navy agreed to the changes in specifications. A saving of 3000 long tons of natural rubber a year will result from this change, according to WPB.

1945 Ford Truck Has Several Improvements

Production of 1945 Ford trucks and commercial cars is up to schedule based upon allocations recently established by the War Production Board.

Two wheelbase sizes are being produced—a 134-in. and a 158-in. wheel base chassis with cab. Stake bodies for 158-in. wheel-base truck are also available. Both chassis incorporate the same powerplant; the clutch, transmission, rear axle and other mechanical units are the same. The War Production Board has also authorized Ford to manufacture a limited number of 114-in. wheelbase pick up trucks.

Both the trucks and the commercial pick-up unit are equipped with a rugged V-8 Ford Truck engine, having a 3.187-in.-bore and 3.75-in.-stroke which gives it a 239 cu. in. displacement. The engine develops 100 brake hp. and provides a wide range of truck performance.

This engine incorporates improved twin self-sealing water pumps automatically lu-

(TURN TO PAGE, 98, PLEASE)

Retiring with "Spoils"



In center, trying to look nonchalant while anticipating the flash of the photographer's bulb, is A. M. Grean, Jr., vice president of Ward Baking Co., New York City, accepting a desk pen set given him in appreciation of three years of distinguished service as president of the National Council of Private Motor Truck Owners, Inc. Making the presentation is George Faunce, Jr., vice president of Continental Baking Co., New York City. Looking on and wondering what he'll get when he retires is the Council's new president, R. J. O'Hare, general traffic manager, Sheffield Farms Co., Inc., New York City

POWER to STOP!

PATENTS
MAKE
JOBS



MIDLAND AIR BRAKES with Big 10 Cu. Ft. Compressor

Big and powerful, this new Midland 10 Cu. Ft. Compressor puts new meaning into the words safety and dependability. This compressor was built big and husky to do an outstanding job in controlling heavy loads over all kinds of roads. It produces a tremendous reserve of power for safe, sure stops under toughest conditions.

See the nearest Midland distributor,
or write us for complete information.

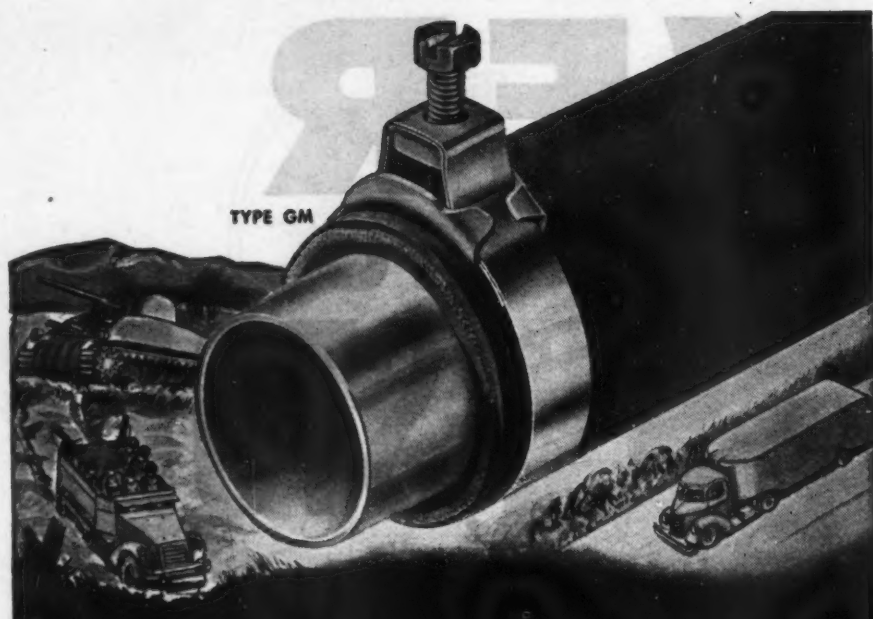
Postwar Opportunity: A newly acquired plant makes it possible for us to consider the postwar manufacture of items in household or office appliance, automotive or mechanical fields, in small or medium size fabrications. We invite inquiries to

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HOSE CLAMPS



Type A—Adjustable
For Replacement.

The standard of the industry. Quick-tightening, perfect leak-proof hose connections, for original equipment and replacement. For Radiator, Heater, Booster Brakes and High Pressure hose connections. Wittek Manufacturing Co., 4305-15 W. 24th Place, Chicago, Ill.



Type HP—For High
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ments.

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HOSE CLAMPS

★ **KEN-TIRE TOOLS** ★
KEEP AMERICA'S KEY TRANSPORTATION
ROLLING!



**KEN
TIRE
TOOLS**

SEE YOUR
LOCAL JOBBER
OR WRITE FOR
ILLUSTRATED
LITERATURE

THE KEN TOOL MFG. CO. AKRON, OHIO

McCREARY TIRES
GIVE MORE MILES at LESS COST

Proven performance for 25 years. 20 per cent more mileage due to Bibb heat-resisting cord built into carcass and tread. Recaps deliver 80 per cent of original mileage.

Write for name of nearest distributor.

McCREARY TIRE & RUBBER CO.
INDIANA, PA.

CCJ NEWSCAST

(CONTINUED FROM PAGE 96)

bricated from the engine oiling system; a new flat-type waterproof distributor with full automatic advance and vacuum control, valve seat inserts, oil bath cleaner, oil filter and other tried and proved Ford Truck engine features. Engine cooling has also been improved by relocating the fan in a higher position and increasing the fan speed.

The 134 and 158-in. wheelbase regular chassis are in no sense "war" trucks. Such truck-engineered features as the heavy duty full-floating rear axle with integral axle shaft flanges, oversize semi-centrifugal clutch, hotchkiss drive and large capacity hydraulic brakes afford a high degree of performance with low cost of maintenance.

The Commercial Pickup, on the 114-in. wheel base truck chassis, features a 3/4 floating rear axle with a new heavier housing, hotchkiss type final drive and two semi-elliptic rear springs.

In addition, WPB has authorized Ford to produce a limited number of 194-in. wheel base chassis intended for school bus use.

Cochrun Assists Collyer

Col. J. L. Cochrun, vice-president of the Seiberling Rubber Co., Akron, Ohio, has been assigned to assist John L. Collyer, special director of the rubber programs, for a limited period, according to an announcement from the War Production Board. Colonel Cochrun's duties will be to see that the war effort within the country is provided with essential tires and rubber products.

(TURN TO PAGE 158, PLEASE)



Ward Keener of Akron, Ohio, has been appointed assistant to the president of the B. F. Goodrich Co.

CCJ War Correspondent



Gene Hardy, of Commercial Car Journal's Washington Bureau, receiving credentials for a Pacific War Theatre trip from Commander Walter Karig, U.S.N.R. As CCJ's War Correspondent Mr. Hardy will seek material on motor transport matters for special articles

for all hydraulics

WALKER *Hydroyl-50*

PRODUCT OF WALKER "KNOW-HOW"

● Jacks that are leaders must give sure-fire, trigger-fast performance throughout a long and trouble-free life. For this, much depends on the jack fluid.

To make sure that every Walker hydraulic jack starts life right, and to provide for its future care, Walker developed a special jack fluid—*Hydroyl-50*. Entirely different, *Hydroyl-50* is more than just an oil, it is a scientifically compounded *oil-alloy*. In it are

special costly ingredients which prevent interior rust, preserve cup leathers and protect vital parts from corrosion.

You'd expect this plus-protection from the leader in jacks. **KNOW-HOW**—acquired from combining scientific research with practical experience—dictated the necessity for a special oil for jacks only. The same **KNOW-HOW** developed Walker *Hydroyl-50*—"life-blood" for all hydraulic jacks.

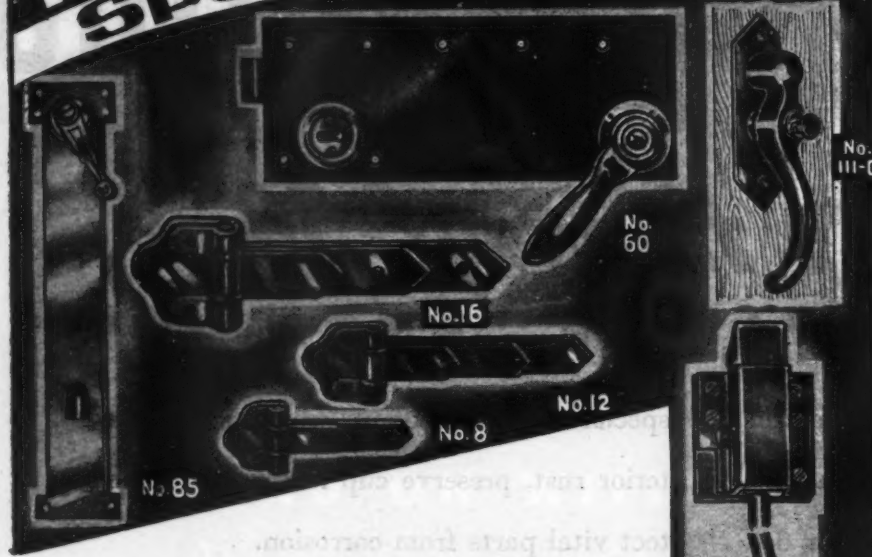
More hydraulic jacks are ruined by filling them with dirty crankcase drainings, brake fluid and the wrong kinds of oil than from any other single cause. No matter what your hydraulic jacks may be, Walker *Hydroyl-50* will pep up their performance, make them last longer.

 WALKER MANUFACTURING COMPANY OF WISCONSIN • RACINE, WISCONSIN

Makers of Walker Jacks and Electric Lifts and Walker Exhaust Silencers

LEADS IN JACKS

for HEAVY-DUTY SERVICE Specify HANSEN



BUILT especially to withstand the wear, tear and rough usage of commercial body service, Hansen Hardware readily adapts itself to heavy-duty performance.

Lasting as long as and often longer than the body, trailer or tank on which installed—strongly made in every way, Hansen extends its peace-time dependability to units engaged in war-time service.

Whatever type of service in which Hansen-equipped trucks, trailers and tanks may be engaged, now or later, Hansen will stand up under hard, heavy-duty, gruelling service—for victory over repairs, breakage and replacements.

If you do not already have one, send for descriptive catalog showing the complete Hansen line of Commercial Body Hardware and one-hand Tackers.

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5047 RAVENSWOOD AVE. CHICAGO 40, ILL.



INSTALL Bowman PLASTIC LENSES

And permanently solve your problem of lenses for all round type marker lamps—6 sizes, 2 1/4 to 3 1/2. BOWMAN'S are your best bet for they are SHATTER PROOF, FLEXIBLE, COLOR FAST, WEATHER PROOF, ECONOMICAL.

They have glass like transparency, are not affected by temperature changes—made in two colors, red and amber.

Contact your jobber or write us direct.
BOWMAN AUTOMOTIVE PLASTICS COMPANY
4314 W. 192nd Street, Cleveland 16, Ohio



PORTABLE
ELECTRIC

and
PNEUMATIC TOOLS

*Drills
*Sanders

*Grinders
*Polishers

INDEPENDENT PNEUMATIC TOOL CO.
600 W. Jackson Blvd., Chicago, Ill.

Thor

VE-DAY BLUEPRINT

(Continued from Page 88)

The WPB reconversion program will be implemented by the following procedures, which will be perfected and put into effect after VE-Day, their timing depending upon the actual programs of military cutbacks:

1. Cutbacks will be handled, wherever practicable, in such a way as to distribute the production load throughout the nation.
2. Positive assistance through controlled material allotments and preference ratings for new or additional production of a very limited number of civilian products now in such short supply as to endanger the war-supporting economy.

3. Suspension of most of the so-called rating floors which now prohibit the acceptance or delivery of materials, components and equipment on unrated orders.

4. Relaxation or suspension as quickly as practicable of a substantial number of WPB's "L" and "M" orders that now prohibit or restrict production and distribution. Mr. Krug said the number of orders to be revoked would follow closely what was planned last fall, when it was announced that about 350 of the 500 existing orders would be dropped.

5. Revocation of most of the conservation orders specifying the kind of materials to be used in making certain products.

6. Some relaxation in the construction order L-41 to permit the most urgently needed civilian construction.

7. Introduction of a simplified priority system to replace CMP and other priorities at the earliest possible date.

8. Procedure for authorizing construction or production in certain local areas, as exceptions to nationwide limitation orders, to permit utilization of labor and resources that cannot practicably be used for war production or civilian manufacture not under limitation orders.

9. WPB will continue specialized controls over all materials continuing in tight supply, such as tin, crude rubber, textiles, lumber, and certain chemicals, to assure meeting all essential war and civilian needs.

VE-Day plans also call for the elimination of the brownout, travel and other nuisance restrictions.

The Byrnes report also states that Economic Stabilizer William H. Davis and OPA Administrator Chester Bowles have developed a program which is designed to keep prices in check, consumer buying power under control, hold wages in check and at the same time establish prices on newly manufactured goods so as to facilitate reconversion.

END

(Please resume your reading on P.90)

Frank P. Herman has been named executive vice president of Purolator Products, Inc., Newark, N. J.



TIPS FROM A LAUNDRY

(CONTINUED FROM PAGE 94)

greater consideration than would be the case if he were sharply critical or sarcastic. He has found that his policy of making it appear that he is a friendly and brotherly adviser has produced excellent results in getting the maximum efficiency out of the men and the fleet.

"Let us take up the 12 points of our maintenance system one by one," continues Mr. Wells. "First, I would say that the most important avenue for the saving of money is the care and conservation of tires. We have them checked at least once a week and oftener than that if possible. We make it a point to be sure that they are properly inflated to a pressure of 40 lbs. and kept in a good condition. We also have them completely recapped as soon as the tread is worn off or before they get down to the first breaker strip. Most of them have been recapped three or four times.

"Before the war, we had a fair stock of tires on hand. As a result we have only purchased eight tires since Pearl Harbor. The recaps that we have done have proved to be very satisfactory for city work. We believe that some of our synthetic tires will turn out as well as some of our recapped rubber tires. Of course we

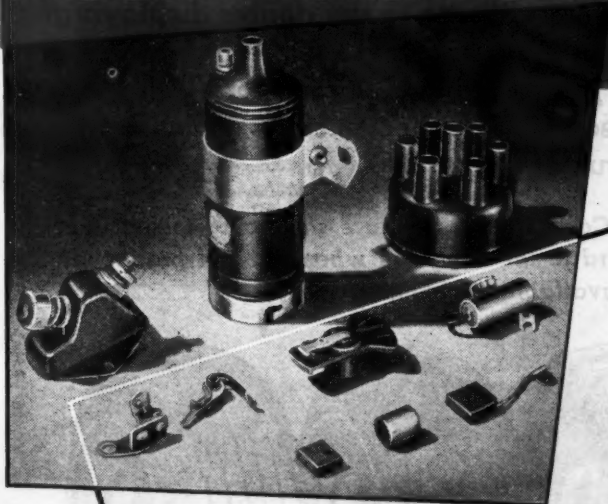
have had to take whatever we could get under war conditions. On occasions, we have put in as high as four or five new sections in the casings.

"We move our tires from the rear to the front occasionally in order to get added wear out of them. I emphasize the fact to them it is almost impossible to replace tires during the war and that delays due to that cause might prevent them from making extra commissions. I also point out that tire conservation is an important aid to the war effort.

"The second step that we take is to keep accurate track of the daily mileage of our salesmen. At the end of each day, we have them fill out reports for the Office of Defense Transportation. A reproduction of this report is shown in Fig. 4. They also sign a sheet whenever they receive gasoline, and the truck mileage is recorded at the time. Drivers are required to report verbally to me on any mechanical trouble with their truck. The garage mechanics then

(TURN TO NEXT PAGE, PLEASE)

TRANSPORTATION TODAY AND TOMORROW



Needs These Vital Parts

Millions of ignition parts like these are urgently needed to conserve America's fast depreciating passenger cars, trucks, buses and taxicabs—and to maintain essential transportation.

To meet this emergency, the full facilities of C. E. NIEHOFF & CO., are devoted to keeping a ceaseless stream of NIEHOFF PRODUCTS flowing through its national network of Jobbers.

C. E. NIEHOFF & CO., 4925 Lawrence Ave., Chicago 30, Ill.

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New York Warehouse and Sales: 250 W. 54th St., New York 19, N. Y.

NIEHOFF

APPROVED QUALITY PRODUCTS



BUELL HIGH PRESSURE AIR HORNS speed up schedules . . . keep the highways open so that a steady cruising speed is maintained. 12% better road time is the result!

AIR COMPRESSOR

Why not investigate the possibilities of the Buell Air Compressor for your Post War Plans. The many ways in which it can serve your needs may surprise you. Put air to work. It is clean, powerful and reliable. Write us, advising all details as to volume, pressure, etc., and our engineers will gladly aid you in solving your problems.

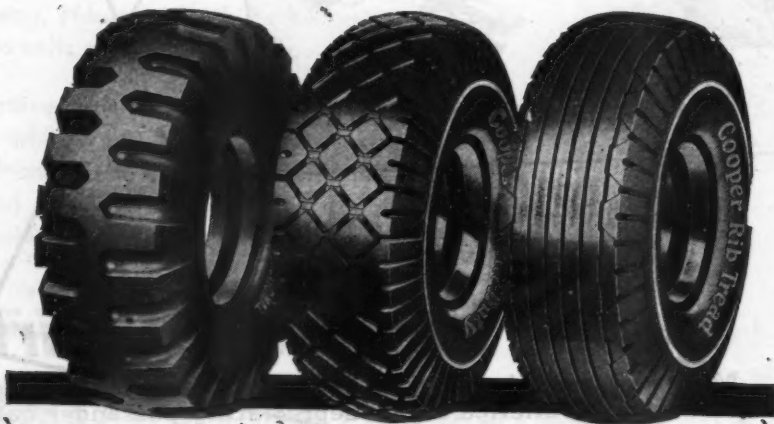


BUELL MANUFACTURING CO.
2700 COTTAGE GROVE AVE., CHICAGO 16, ILL.



Take your tire certificate to the dealer displaying this dependable name. You'll save money; and more, you'll be getting tires famed for extra mileage by reason of Cooper's exclusive distributed stress construction.

Thousands of Cooper truck tires are still going to war, but we look forward to the day soon when our full production will again be available to civilian transport.



THE COOPER CORPORATION, FINDLAY, OHIO

VELVAC POWER BRAKES

**Better Built
for Better Service**

REPRESENTED
THROUGHOUT U.S. AND CANADA
VELVAC, INC.—DETROIT 16, MICH.

K-D LIGHTING

The right light for the right job

**GO TO
LIGHTING HEADQUARTERS
YOUR K-D LAMP JOBBER**

★ ★ ★
K-D LAMP CO.



★ ★ ★
CINCINNATI, O.

TIPS FROM A LAUNDRY

(CONTINUED FROM PAGE 105)

start work at once to remedy the defect. In this way the trucks are kept up to high mechanical condition.

"Third, we try to instill into the mind of the salesman the idea that whenever he kicks the doors shut with his feet it may not only mar it but also throw it out of alignment and endanger the springs. We point out that it may make it necessary for the company to buy new parts and explain that it is frequently impossible to do it under war conditions.

"Fourth, we repair all fenders that have been dented or crushed as soon as possible. We find that they are likely to become rusty if they are neglected and not attended to at once. We have five trucks that are held in reserve so that they can be repaired and adjusted while the other nineteen are in active service.

"Fifth, we wash and polish the bodies of all of our trucks every week until they glisten and shine as if they were new. We find that this makes a favorable impression upon our customers.

"Our sixth important step is to give our trucks frequent paint jobs so that the salesman can be proud of his equipment as he drives up to a residence in an aristocratic district. Fenders and doors, whenever they are marred, dented or receive the slightest scratch, are painted. Sometimes this amounts to three or four times a year. Although there are no regular schedules for complete paint jobs, delivery trucks get this service as often as they need it. As a result of this policy, a certain percentage of the trucks are in the paint shop most of the time.

"The seventh important point is a policy of making all of our trucks last about the same length of time. In order to do this, we switch trucks from the busy down town districts where the runs are short and the calls are close together to outlying ones where the stops are far apart. At the same time, we switch the ones from the outlying districts to down town calls that are easy to cover.

"The Imperial-Quality Laundry does not like to have one truck run three times as much as another in a year and now works toward an average of approximately 7000 miles per (TURN TO PAGE 108, PLEASE)



USING LOW OCTANE GAS ?
GET MORE MILES OF SERVICE
from good spark plug wire replacements



Chicago, Ill.



Richmond, Ind.

Belden
Automotive **WIRE**

SPARK PLUG WIRES • BATTERY CABLES • LIGHTING WIRES

There's an
EXTRA
in an Edison!



Users of Edison batteries know that the "greatest name in electricity" means extra power. That is why fleet operators who have once used Edisons always replace with Edisons.

Thomas A. Edison, Inc.

EMARK DIVISION — PLANT No. 1, KEARNY, N. J.



Thomas A. Edison
FOUNDER

YOU CAN ALWAYS RELY ON AN EDISON

TIPS FROM A LAUNDRY

(CONTINUED FROM PAGE 106)

year per truck. The trucks that work in the congested districts down town run about 100 miles per week while those in the outlying areas such as West Seattle run from 200 to 300 miles per week. If the company did not switch trucks from outlying districts, some would run 5000 miles a year while others would be doing 15,000. By switching them, the mileage is kept about the same.

When trucks are changed in this manner, however, the driver is not changed to the new area. The company has found that it is better to keep a driver in the same area where he knows the route.

"Our eighth important point in making a success of our operations is the conservation of gasoline and oil. In addition to our O.D.T. daily report, we have designed a special sheet which is clamped to a board for the driver to sign when he receives his gasoline at our garage. This form, shown in Fig. 3, has proved very satisfactory in every respect. We also have a weekly sheet containing a resume of our daily reports which is turned over to our office manager each week. A reproduction of this form is shown in Fig. 2.

"The ninth step is our aggressiveness in going after part replacements. Before the war, we were literally stormed by salesmen who importuned us to buy goods. Now we have to go out into the market and find the machinery for replacements. In fact, I spend about 40 per cent of my time now seeking out places where I can get spare parts and equipment. If I didn't do this, we would be held up

(TURN TO PAGE 110, PLEASE)

New

The A B C's of Wheel Alignment Testing



Send for this Free Book that gives in illustrated form the fundamentals of wheel alignment testing. It takes the mystery out of wheel alignment!

Micro-Linor Service Corporation
1629 West Fort Street Detroit 16, Mich.



MICRO-LINOR

Patented "Tracer-Wheel" Principle



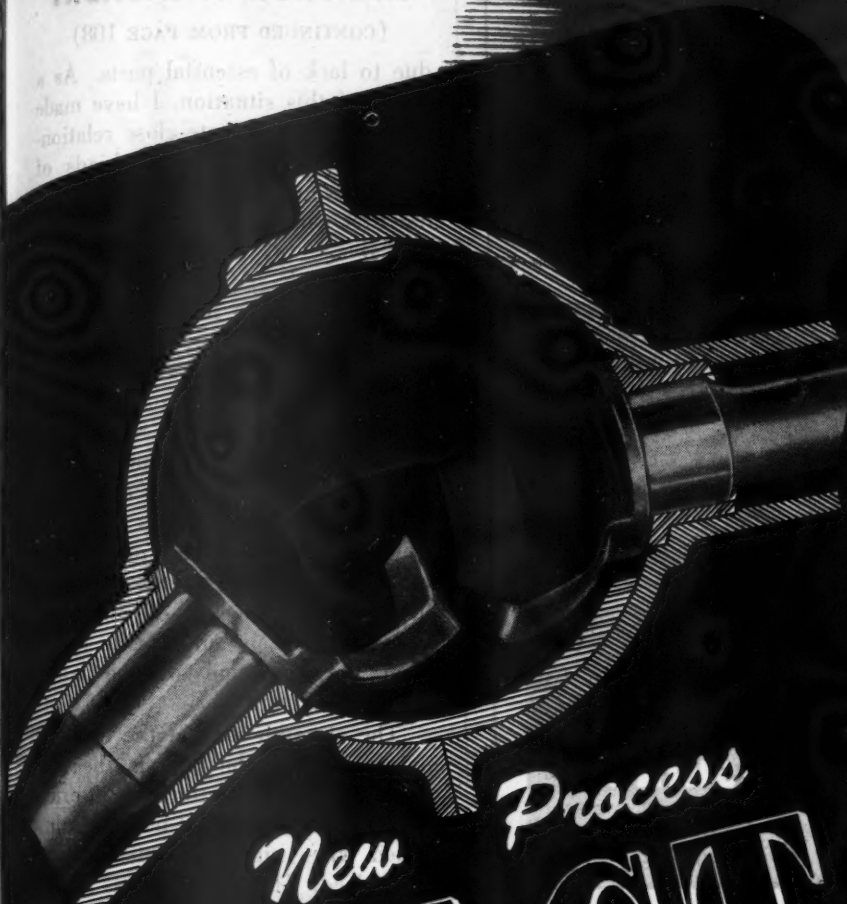
MR. TRUCK OWNER:

ALMETAL JOBBERS CAN SOLVE YOUR
UNIVERSAL JOINT AND DRIVE SHAFT
PROBLEMS. CONSULT THEM FOR
HELPFUL ASSISTANCE.

★

THE ALMETAL UNIVERSAL JOINT CO.
1555 EAST 55th STREET • CLEVELAND 3, OHIO

MAKES FRONT-WHEEL DRIVES EASIER TO STEER BECAUSE:

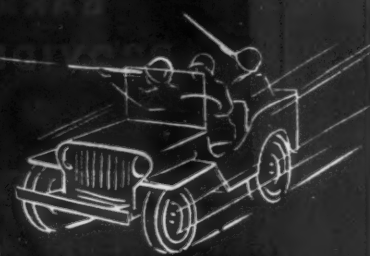


Constant Angular Velocity...

Uniform Power Flow...

Uniform Traction...

Less Torsional & Lateral Vibration



New Process TRACTA

CONSTANT-VELOCITY UNIVERSAL

ONLY 4 SIMPLE PARTS

- Easier to Assemble**
- No Jigs or fixtures required**
- No pre-loading or selective fitting**
- Accommodates for moderate end-float misalignment and wear**

Assuring constant velocity over wide steering angles and under heavy loads, the New Process TRACTA universal eliminates the traction losses, backlash and high-frequency vibration of ordinary Cardan joints. Light and compact; it practically nullifies centrifugal and gyroscopic forces, making steering firm, responsive and positive at high speeds and under heavy torques. There are no nuts or pins to assemble or shake loose. The four simple parts slip together handily, greatly reducing assembly time and cost.

TRACTA JOINTS are ideally suited to front-wheel drive, multiple drive, independently sprung wheels, half-tracks and caterpillars.

Write today for data, torque capacities, operating and test data.



NEW PROCESS GEAR CORPORATION
DIFFERENTIALS, AXLES, TRANSMISSIONS, AVIATION GEARS . . . SYRACUSE 1, N. Y.

Little Known facts
about a well-known product



Assured meshing of the starter pinion with the flywheel gear is essential for quick, sure starting and Bendix has accomplished this with its Barrel-Drive construction.

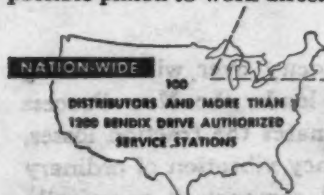
This unique and exclusive construction protects the triple threads from exposure to oil, clutch dirt and other foreign matter. It permits the smallest possible pinion to work directly on the

armature shaft thus providing maximum cranking efficiency with the minimum number of teeth.

For quick identification and your protection, the Barrel and other Bendix Starter Drive parts are packed in the well-known blue and white Bendix boxes.

Remember—the name Bendix is your assurance of durable construction and customer satisfaction.

BENDIX AND ECLIPSE ARE TRADE-MARKS OF BENDIX AVIATION CORPORATION



Bendix Drive

ECLIPSE MACHINE DIVISION

BENDIX AVIATION CORPORATION, ELMIRA, NEW YORK

OVERSIZE REAR WHEEL

STUDS
for all
TRUCKS

Send for
Catalog
Order from
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CHAMP-ITEMS, Inc.
6191 Maple Ave.
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BALDOR

BATTERY CHARGERS

Improved ventilation for cool operation, longer life and greater efficiency. They stand the strain of peak loads.



12-batt. size...\$29.00
less bulb

BALDOR
ELECTRIC CO.
4340 Duncan Ave.
St. Louis 10, Mo.

TIPS FROM A LAUNDRY

(CONTINUED FROM PAGE 108)

due to lack of essential parts. As a result of this situation, I have made it a point to cultivate close relationships with dealers in all kinds of automotive equipment and try to get the first call when needed parts are available.

"The tenth step toward our economical operation has been our discrimination in the use of oil. The very best grade is used and it is checked frequently. We usually use SAE 30 in summer and SAE 20 in winter. We have oil filters on all our trucks and install new cartridges in them every few months or whenever the oil shows too much contamination. We give the trucks a complete seasonal change of oil every spring and fall and an occasional one when the condition of the truck seems to warrant it.

"The eleventh step in the efficient maintenance of the fleet is the frequent checking of batteries. Batteries are checked weekly and new ones installed when signs of deterioration are noticed. The company has found that it is poor business to attempt to run delivery trucks when the electrical systems are out of order or worn out. We maintain that between 40 and 50 per cent of all road failures are due to faulty batteries and ignition systems. The main trouble centers are the defects in ground posts and the corrosion of ground cables. We have to give drivers tips on the care of the electrical system as the majority of our equipment was purchased in 1940 and 1941, and we must give it great care in order to make it function properly. As a result of the care given our batteries, they last on an average of 2 years and in some cases have lasted 4 years."

Mr. Well's twelfth point concerns the education of his drivers. He instructs them to proceed very slowly across blind intersections where the limit should be 12 miles an hour. He tells them to drive very carefully in dangerous, slippery places, around sharp corners and on the steep hills of Seattle. He emphasizes the importance of conforming with all traffic regulations and insists that all brakes be checked carefully.

The company maintains a group
(TURN TO PAGE 112, PLEASE)

Approved
BY BOTH
ARMY & NAVY



**THE MARMAN UNIVERSAL
HOSE CLAMP—SERIES 820**

Now, for the first time, one clamp combines
all these features: ✓ stainless steel construction
✓ re-usability ✓ self-locking screw with high
back-off torque ✓ corrosion resistance ✓ adjustability
—3 sizes handle hose diameters from $1\frac{1}{16}$ to $3\frac{9}{16}$
O.D. ✓ non-slipping band conforms to hose contour
and clamps irregular shapes with equal efficiency.

Marman also makes standard fixed contour hose
clamps in stainless steel and aluminum alloy, as
well as the Marman Quick-Coupler in stainless
steel or aluminum alloy. Write today for *new*
folder, Series 820.

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PRODUCTS CO. Inc.

940 WEST REDONDO BOULEVARD
INGLEWOOD, CALIFORNIA

EASIER TO INSTALL!



1. Retract screw fully. Wrap
band around hose and insert
end through opening in saddle.

2. Pull up snug, fold
band down inside sad-
dle, tighten screw.

Marman's exclusive swivel-action nut rocks on
swivel pins and when screw is tightened, tips
down, cinches band and prevents slipping.

Bear in mind...



*...it's Time for
Higher S.Q.**

Inefficient brakes are your greatest hazard. Boost your drivers' **Safety Quotient** by relining with Grizzly high quality, long wearing brake lining. Grizzly Manufacturing Company, Paulding, Ohio.



Support the National
Brake-Check Campaign
Sponsored by the
International Association
of Police Chiefs.

THESE GRIZZLY FEATURES MEAN HIGHER S. Q.

- Exclusive asbestos-friction compound, molded on wire-grid back.
- Constant high coefficient of friction throughout longer life.
- Astonishing freedom from adjustment.
- Precision machined for quick installation.
- Quick stops... but smooth... and with softer pedal.
- Most efficient braking performance under all conditions of service.

GRIZZLY

REG. U. S. PAT. OFF.

BRAKE LINING

AIR-GO

100% PETROLEUM PRODUCTS

MOTOR TONIC

Reduces maintenance and operating costs... results in more engine power, more mileage per gallon, less wear and repair, freedom from carbon formations, sludge, etc. Add to any motor oil.

GAS FLUID

Aids in reducing gasoline and oil consumption, prevents corrosion, assures cleaner top motors, reduces metal wear and loss, helps eliminate sticky valves. Complete details on request.

ALLEGANY OIL CO. 2160 CLINTON ST. CHICAGO 6, ILL.

KEYSTONE SNOW PLOW LIGHTS

Are keeping roads safe, eliminating plowing hazards.

Install these husky weatherproof warnings now, while we can still deliver.

Get the same safety for your department.

Keystone Lights flash to front and rear.

AUTO GEAR & PARTS CO.

1446 W. Hunting Park Ave., Philadelphia 46

TIPS FROM A LAUNDRY

(CONTINUED FROM PAGE 110)

life and health insurance plan which is designed to cut down on labor turnover. They are making it a policy to hire older men as they figure that men who are over 37 are not so liable to be called into the service. They also say that drivers around 50 are not as likely as younger men to change around or quit.

When a man gets through with a route for a specified day, he is free to turn in his car and have the rest of the day to himself. Under the policy before the war, he was required to stay out on his route until shortly before 5:30 P.M. and then come into the garage.

Drivers are better off and have more freedom than the average business man who is actually in business for himself as the driver does not take any financial risk or responsibility. The men who cover the house to house and apartment areas have a union scale of \$40.00 a week guaranteed and a 15 per cent commission while those in the wholesale work get \$42.50 a week and a 3 per cent commission.

They also have a 5-day week and freedom in the use of their time after 2 or three in the afternoon if they have completed their job for that day. They are so well treated that the drivers with other laundries are always trying to get on the staff of the Imperial-Quality, where labor relations are excellent and working conditions close to ideal.

As a result of close cooperation between the executive offices in the main building and the repair shop, the Imperial-Quality Laundry has made a splendid record of efficiency and economy with its delivery system, for it has conserved gasoline, rubber, machinery and manpower for the War effort.

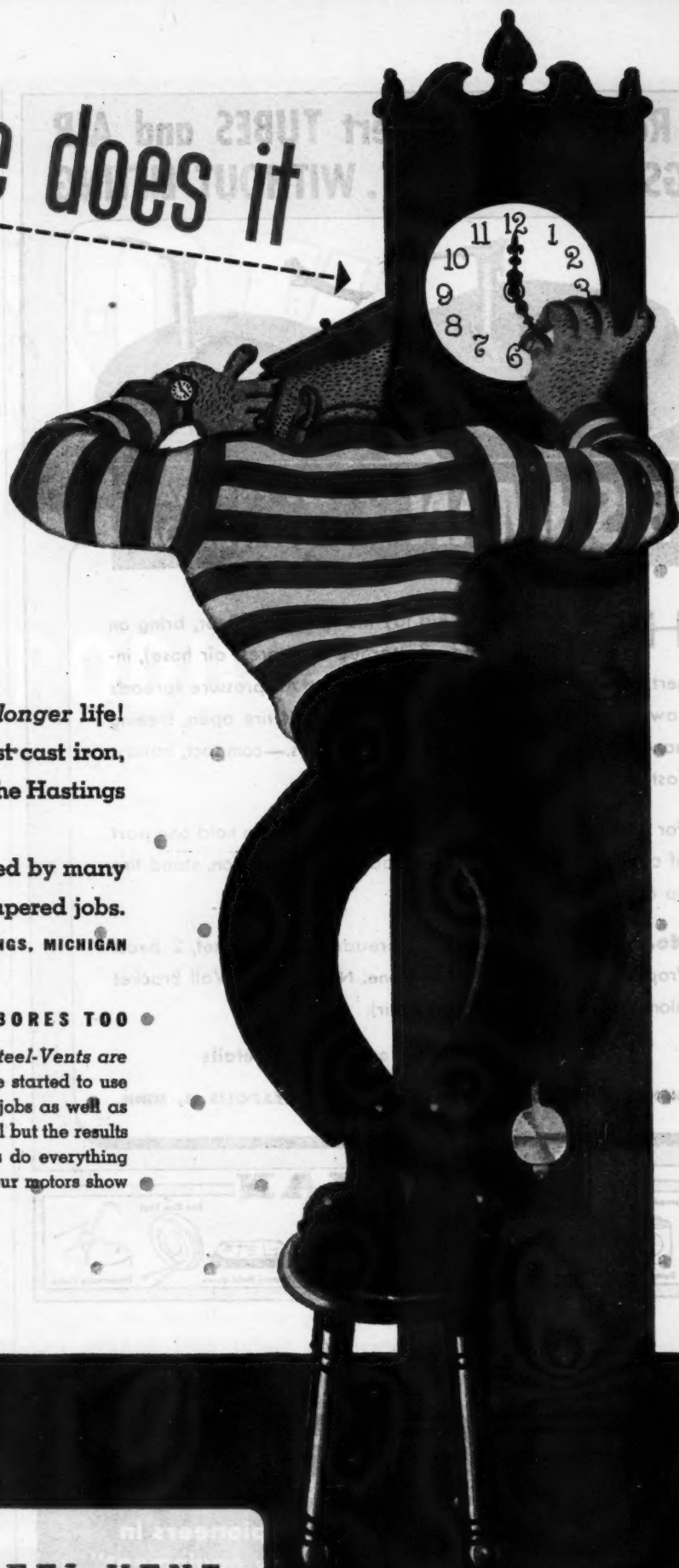
END

(Please resume your reading on P. 64)



One of the White Super Power units of the Warren Ballinger Drayage fleet, San Francisco, hauling rubber boats for the fighting forces

Soft Pressure does it



Steel for long life—Soft-Pressure for longer life!

Steel forms an ideal bearing against cast iron, provided it bears softly, gently, as in the Hastings Steel-Vent.

That's why Steel-Vent is widely used by many of the largest fleets, in rebored and tapered jobs.

HASTINGS MANUFACTURING COMPANY • HASTINGS, MICHIGAN
Hastings Mfg. of Canada, Ltd., Toronto

SOFT PRESSURE DOES IT — IN REBORES TOO

One trial convinced this fleet operator that Steel-Vents are the right ring for any job: "Two years ago we started to use Steel-Vent 'motor engineered' sets in our rebores jobs as well as our repair jobs. Will admit that we were skeptical but the results we have received convinced us that Steel-Vents do everything you claim. We not only get longer ring life but our motors show less cylinder wall wear."

HASTINGS STEEL-VENT

PISTON RINGS

U. S. PAT. 2,148,997

TOUGH ON OIL-PUMPING GENTLE ON CYLINDER WALLS



It's a privilege to buy war bonds

To Remove and Insert TUBES and AIR BAGS in Big Tires... WITHOUT LIFTING



BISHMAN NO. 555 PNEUMATIC TIRE SPREADER

HERE'S a MAN-SAVER! Just lay the tire on the floor, bring on the No. 555 Spreader (attached to nearest air hose), insert jaws in casing and press thumb lever. Air pressure spreads jaws to about 11 inches. Thumb catch holds tire open, freeing hands for other work. Weighs only 10 lbs.—compact, handy, fast, powerful, sturdy.

For a long opening, use BISHMAN Bead Props to hold one part of casing open, then move Spreader. For inspection, stand tire up against bench or wall.

No. 555 Complete Unit—spreader, wall bracket, 2 Bead Props. NO 555-S, Spreader alone. NO. 555-A, Wall Bracket alone. NO. 575 Bead Props (pair).

ASK YOUR JOBBER or Write for Details

BISHMAN MFG. CO., 1101 SO. 2ND ST., MINNEAPOLIS 15, MINN.



BETTER BODIES

• Build truck bodies of SUPERIOR GALVANNEALED. It's a highly rust-resistant, zinc-coated steel sheet that "takes" and "holds" fine finishes.



THE SUPERIOR SHEET STEEL CO.
CANTON, OHIO

KING BEE

"... pioneers in
safety equipment"

lamps • mirrors • reflectors • flares

AMERICAN AUTOMATIC DEVICES CO.
Harrison, Throop and Congress Streets
CHICAGO, ILLINOIS

DEPRECIATION DTs

(CONTINUED FROM PAGE 69)

already accumulated, the proper total depreciation for the fleet for the year is set. This is pro-rated over all the vehicles, using the previously established normal annual retirement as a basis. No account is ever taken of whether an individual vehicle has completed its originally estimated life, nor is any vehicle excluded from depreciation charges, as long as it is serviceable.

This practice to our minds makes for simplicity and in the long run will be, we believe, as accurate as any plan that can be devised.

DEPRECIATE FULLY

by Jean Y. Ray

Supervisor, Auto. Equipment,
Virginia Elec. & Power Co., Richmond.

As regards the depreciation policy of this company we charge off all vehicles on the same basis. The rate is 7½ per cent the first year and 15 per cent each following year until the vehicle is fully depreciated. This is the method we have always followed. The 7½ per cent charge-off the first year is based on the theory that the average age of vehicles purchased during the year will be six months as of Dec. 31, when depreciation is charged off.

Under the present abnormal conditions a large percentage of the fleet has been fully depreciated. However, under normal conditions, this practice ties in very well with our replacement program. The trade-in allowance plus the accumulated depreciation usually more than cover the cost of the new unit. Used vehicles bring very good prices in this area. Usually above the national average.

STRAIGHT-LINE METHOD BEST

by Automotive Engineer

of One of Nation's Largest Fleets.

I would kind of like to ramble on on this subject of depreciation as so many fleets seem to make a mountain out of a mole-hill.

This fleet manager who operates his trucks by the calendar is just kidding himself for it is not a human possibility to mechanically operate trucks exactly four years to use them up, economically speaking. Also, his salvage will never line up exactly where he hopes it will.

If he would set his sights on what he hopes to gain in years of service, of economical operation for the vehicles he buys, and set up a straight-line depreciation to meet the salvage at his expected point of disposal, he is usually free then to take advantage of a buyer's market at half the age of the vehicles or pass over a seller's market at the normal expectancy time of disposal.

Let's say his four years of life on these panel deliveries is correct. If he has a fleet spread out to any extent geographically, some of those vehicles might be mechanically ripe for trade-in at two to three years while others in easy going would last six years. You will say that he has over-

(TURN TO PAGE 116, PLEASE)

FLEX-O-TUBE

PRODUCTS

FOR FLEX LINES

The Flex-O-Tube Company pioneered the development and the manufacture of flexible hose assemblies for gasoline, oil, hydraulic, pneumatic, high pressure grease and other services. Flex-O-Tube's research engineers are constantly broadening the field of application of flexible hose assemblies and improving their capacity and quality.

"You Can't Yardstick Experience or Workmanship"

Flex-O-Tube

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LAFAYETTE at 14th AVE.,
DETROIT 16, MICHIGAN
Offices: CHICAGO · FORT WORTH
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There's
FOUL AIR

in CRANKCASES too! Remove it with **DONALDSON POSITIVE Crankcase Ventilation**

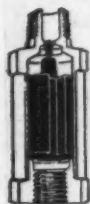
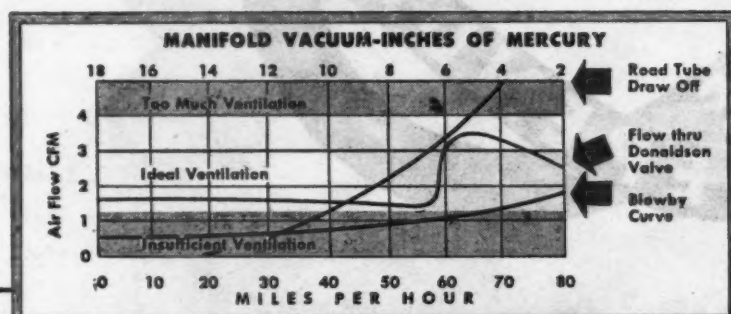
Blowby gases, fuel vapors, and water vapors are present in the crankcase of an engine in operation. Unless they are removed promptly engine troubles develop—hard starting, oil freeze-up, excessive oil dilution, acid corrosion, and lubrication breakdown due to sludge.

Donaldson Positive Crankcase Ventilation gets at the source of these common engine troubles . . . removing foul air immediately by providing a controlled flow of clean, dry air through the crankcase at all engine speeds, under all conditions. (See Chart below)

The U. S. Army has specified Donaldson Crankcase Ventilation for hundreds of thousands of military vehicles. Every post-war truck, bus or automobile designed for utmost operating economy, greatest engine mileage, and least cost for maintenance, will be equipped with positive crankcase ventilation. Acquaint yourself now with the unique Donaldson System. Manufacturers are invited to write for more information.

DONALDSON CO., INC.
666 PELHAM BLVD. ST. PAUL 4, MINN.

(Graph below showing blowby curve and valve flow is representative of engine of 200 cu. in. displacement)



The Donaldson Metering Valve here cut away to show the simple mechanism, is controlled by intake manifold vacuum and regulates air flow in proportion to blowby.

**DONALDSON
POSITIVE**

Installed between the crankcase and intake manifold, the Donaldson system employs vacuum to withdraw blowby gases from the crankcase and discharge them into the intake manifold.



CRANKCASE

VENTILATION

**FRINK
SNO-PLOWS**

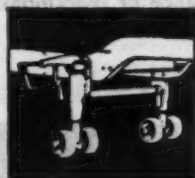
Both "V" TYPE and
ONE WAY BLADE TYPE

hand or power hydraulic control

FOR ALL MOTOR TRUCKS
FROM 1½ to 10 TONS

Write for catalog 38AC and 38BC with discount to truck dealers.
CARL H. FRINK, Mfr., CLAYTON, 1000 1st., N. Y.
DAVENPORT-BESLER CORP., DAVENPORT, IOWA
FRINK SNO-PLOWS OF CAN. Ltd., TORONTO, ONT.

AUSTIN THE ACCEPTED
STANDARD . . .



A complete line of
**LANDING
GEARS . . .**
HORIZONTAL,
VERTICAL and
FOLDING TYPES

Write for complete information on "SAFETY
PROPS" and FIFTH WHEELS

AUSTIN

TRAILER EQUIPMENT COMPANY - MUSKOGEE, ALABAMA

DEPRECIATION DTs

(CONTINUED FROM PAGE 114)

depreciated one and under-depreciated the other. However, his depreciation reserve on the whole will ante out okay. Let's say, on the other hand, that he kept the hard going truck in service for four years and spent quite a bit extra and that he disposed of the easy going truck at four years, both moves naturally are wrong.

His question of what would be a fair figure to carry on the books until the day they can be replaced is crazy.

Let's say he uses straight-line depreciation and keeps on building up his reserve throughout the duration of the war. He is faced with a couple of possibilities. One, that his reserve will become so large that it would replace his fleet at the close of the war with money still in the reserve. Against this, however, we have an angle that perhaps he has forgotten. A ½-ton truck before the war cost about \$650. The latest prices are about \$1,050. The dear old straight-line method can go quite a ways before it gets his reserve up to the point where it can carry this added load.

Now anyone using a straight-line method should review his depreciation results annually and adjust them to the current and look-ahead conditions.

There is another angle to this set four-year disposal practice. A fleet so oriented is full of crests and hollows in its operating costs, as vehicles are being secured in large gobs with attendant low operating cost for the early part of their lives.

I would much rather work on a day-to-day basis, judging each vehicle on its own condition as to when to replace and thereby spread the inflow of new vehicles over the entire year and years. I would also go so far as to ignore the practices of some fleets in waiting to buy for two or three months ahead of model changes unless there was something completely haywire in the current model.

Too many fleet operators have kidded themselves on over-emphasis of the salvage value, inasmuch as the salvage value will rarely pay for one-tenth of one year's operating cost.

Salvage value now, of course, is relatively high. Furthermore, salvage value will vary 25 to 50 per cent, considering one end of a State against the other end of the same State in normal times. I can remember a double the salvage value situation between New York and Buffalo in time gone by.

Straight line depreciation hits the nail on the head at only one point in the life curve of the vehicle, but it sure can be made to do a swell job for a sizable fleet in the over-all picture.

If a fleet stops depreciation on a vehicle at a certain time, its operating costs on that vehicle are not comparable with other vehicles which are still carrying depreciation. Now go ahead and argue that repairs plus depreciation are a constant, but they just ain't in anybody's book.

It looks to me like fleets of lighter vehicles will have reached an age before any appreciable replacements can be made so

(TURN TO PAGE 120, PLEASE)

Specially Engineered for **TRUCKS** and **BUSES**

Truck BELTS

Need Extra Strength
Exactly the Same as
Truck TIRES!



You would naturally never think of using passenger car tires on your trucks or buses. Then why use passenger car belts?

The moment you give it a thought, you realize that trucks and buses put a heavier load on belts just exactly as they do on tires.

For example—A typical passenger car belt carries only a 3.8 horse-power load. The belt on a regular truck must transmit 13 horse-power to turn the fan, pump and generator. Again, trucks and buses run longer hours—they change speeds more often, they accelerate more rapidly, decelerate more abruptly with more stops, starts and idling in low gear. Naturally, the strain on truck and bus belts is far greater than a passenger car belt ever has to stand.

That is why big operators by the hundreds are turning to the one belt that is especially engineered to stand this extra heavy service—the Gates TRUCK Belt.

DELAYS are what **COST** you **MOST** these days

Longer Wear **CUTS DOWN** Your **SERVICE DELAYS**

Read the letters reproduced on these pages. They tell you how practical, experienced, hard-headed operators are getting 50% to 80% longer belt wear since they began using the Gates TRUCK Belt. More important they tell you how much valuable operating time they are saving through fewer road failures and fewer delays for servicing.

If it is important to you to keep your trucks and buses operating most efficiently and economically, call your jobber today and tell him to send you a trial order of Gates TRUCK Belts.

GATES Jobbers NOW Have Stocks to Serve You!

SACRAMENTO, Cal.

"We installed your Series T Black Truck Belt when it was first placed on the market and it is giving approximately 80% longer service than even your pre-war belt."

—Gibson Lines,
W. T. Smith, Shop Supt.

**"90%
LONGER
SERVICE"**

Hundreds of
BIG OPERATORS
say **"50% to 80%
Longer Wear"**

NEWARK, N. J.

**"CUTS
COSTS
IN HALF"**

"Really tough service on our milk trucks played havoc with belts until we installed Gates Specially Engineered Truck Belts. We are now using only half as many belts as before—and saving a lot of time previously spent on belt adjustment."

—Bloomingdale Dairy Co.,
Inc., Edwin R. Fantel,
Maint. Supt.

MILWAUKEE, Wis.

"Your specially engineered TRUCK belt is now in use on our entire fleet. It is far superior to any belt we have ever used."

—Advance Express Co.,
Dave Winters.

**"FAR
SUPERIOR"**



The GATES RUBBER CO., Denver, U. S. A.
World's Largest Makers of V-Belts

**SMOOTH,
LOW COST
FINISHING**

is yours

WITH THE

KELLOGG-AMERICAN

"25"



Model 25-B
with quart
container

A spray gun can make or break your fleet finishing jobs. If a gun isn't just right it may be the cause of orange peel, runs or sags that require costly hand work and repainting. A gun that's *right* for applying a smooth finish—easily and at low cost—is the Kellogg-American "25." Its non-tiring, natural, free-swinging balance allows full, long, arm-strokes—gives smooth uniform coverage. Its perfect atomization, with precise control of spray pattern and material flow, helps avoid too wet or too heavy coats. Make your new spray guns Kellogg-American "25."



Back up your spray guns with a Kellogg-American compressor offering *quiet, vibration-free* operation and *most air per dollar*.

AMERICAN
Brake Shoe
COMPANY

KELLOGG DIVISION

ROCHESTER 9, N. Y.

AIR COMPRESSORS • PAINT SPRAY EQUIPMENT

DEPRECIATION DTs

(CONTINUED FROM PAGE 116)

that prewar practices would dictate the replacement of every single vehicle in the fleet at one time or at the earliest possible moment. In this regard I would suggest that this buying spree, regardless of rationing and availability, be handled by the trade-in of the worst vehicles first at a speed or rather slowness which will permit of a fleet assimilating its new vehicles in an orderly manner. This could mean taking two or three years to accomplish the entire renewal of a respectable-sized fleet. Of course the fleets may not have any option as the Government may spread their renewal out over plenty of years if it so elects.

Unless straight-line depreciation is kept fluid by revisions as necessary, there is a tendency for the fleet to over-depreciate for a period of years and then to correct the books by under-depreciating for several years to make the depreciation reserve too small, repeating the cycle ad infinitum.

If there are questions on the foregoing, I will try to answer them.

END

(Please resume your reading on P. 70)



A recent addition to the 135-unit fleet operated by the Blue Diamond Corp. of Los Angeles is ten new KR-11 trucks. One of these is shown with telescopic dump trailer taking load from overhead tank hopper. At the place of delivery the truck first is unhitched from trailer, dumps its load and then is backed carefully into telescoping mechanism of trailer so body of trailer slides into that of truck. Trailer load is then dumped in usual way. Each has a capacity of 8 yd.



For car, truck,
bus or plane.

Literature on request

Hindview
MIRRORS



WHITEHEAD

STAMPING COMPANY Est. 1903

1405 W. Lafayette Blvd.

Detroit 16, Michigan

**MORE FORD TRUCKS
ON THE ROAD . . . on
more jobs . . . for more
good reasons!**

FORD MOTOR COMPANY

Ford



New Program Calls for 1,063,000 Trucks for 1946

A motor transport equipment program calling for the construction of 1,063,000 trucks during 1946 has been presented for consideration to WPB by the Highway Transport Department of the Office of Defense Transportation.

The program also calls for 50,000 truck-trailers, 250,000 truck and trailer bodies and 6000 attachment third axles.

The truck program includes 552,000 light, 444,000 medium, 55,000 light-heavy and 12,000 heavy-heavy trucks. The truck-trailer program includes 41,000 general freight and 9000 special type truck-trailers.

22,232 Trailers Planned for Year

Authorizations to trailer manufacturers for the production of 10,000 commercial truck-trailers during the last two quarters of 1945 were announced by the War Production Board. The approved 1945 program totals 22,232 units, with 12,232 planned for the first half of 1945, and 5000 each for the last two quarters. Production is distributed among 211 manufacturers.

OPA to Lower Ceiling on Rayon Tires

A reduction of 7.5 per cent in retail ceilings of synthetic rubber tires made of rayon is planned by OPA. Heretofore there has been a premium of 12.5 per cent on these truck tires over the ceilings for the same size and type tires of cotton

construction. The proposed decrease in ceiling will automatically cause corresponding decreases in wholesale ceiling prices.

5112 Trailers Produced For Civilians, Jan. and Feb.

There were 15,293 truck-trailers produced in January, 1945, according to recent figures published by the automotive division of War Production Board. Of these, 12,432 went to the Army while 2861 were available for civilian consumption. In February there were 15,043 truck-trailers manufactured—12,792 went to the military and 2251 went to civilians.

The figures represent approximately 100

per cent of industry authorized to produce trailers and are based on reports from 212 manufacturers.

ODT Certifications Limited to "For-Hire" Transportation

All certifications to Selective Service for occupational deferment of employees under 30 engaged in any service incidental to the principal activity of a particular industry or plant (including transportation services) should be made by the government agency having jurisdiction over the principal activity of the industry or plant involved.

(TURN TO PAGE 126, PLEASE)



Teleoptic DIRECTIONAL SIGNALS



Clear, positive, unmistakable signals visible from any angle DAY or NIGHT, at 125 feet!

This is the achievement of Teleoptic for MAXIMUM SAFETY—180° visibility—effectiveness attested by approval of STATES requiring Directional Lights.

Here is insurance of PRICELESS PROTECTION—as against price.

Look for these advantages in Teleoptic:

Guaranteed against all defects. Integral construction—large studs give less chance of shear. Finest ground glass lenses. Easy installation. Finger-tip switch control, 2 types available for extra convenience.

Made with the same engineering quality and precision that we are putting into bomb fuses and other ordnance items.



Teleoptic Finger-tip Control switch on gearshift lever.



Teleoptic Instrument Panel, with or without pilot light control switch.



Teleoptic Steering Column Control Switch.

On the
Highway it's
Teleoptic

In the Air it's
Sel-air

THE TELEOPTIC CO.
1245 MOUND AVENUE
RACINE, WISCONSIN

Speed up your
battery testing
and assure
greater
accuracy

—by using an
IMPERIAL "K"
No. 515-T
BATTERY
HYDROMETER

Has shatterproof glass jar—will stand up under hard knocks.

Thermometer type — corrects for variations in temperature.

Net price to Fleet Owner.....\$1.35 ea.

Order from
Your Jobber

THE IMPERIAL BRASS MFG. CO.
1209 W. Harrison St., Chicago 7, Ill.

Is the **LEDO ROAD** an easier



YOU'D find the Ledo Road pretty tough on truck engines.

But many a truck on U.S. 1 today is finding lots more engine grief than the Army vehicles rolling along Ledo's mountain ruggedness.

How come? It's because those Army vehicles—every last one of 'em—are using a wonderful new type oil. It protects them against

sticking valves...gun.med piston rings . . . clogged oil lines . . . carbon troubles . . . bearing corrosion.

This multiple protection is the result of that *detergent*,¹ *dispersive*,² and *anti-corrosive*³ oil the Army uses.

And this same protection YOU can expect from Veedol 90 H. D. For Veedol 90 H. D. is detergent,

dispersive and anti-corrosive. On top of that, Veedol H. D. is made from the finest crude in the world—100% Pennsylvania.

If this type of oil is a *must* for every Army tank, truck, jeep— isn't it just as necessary for your irreplaceable equipment?

Veedol 90 H. D. comes in S. A. E. 10 to 50. Write *today* for full information and prices.



1 DETERGENT

—Veedol 90 H. D. helps prevent sludge and gum, tends to sharply reduce varnish and lacquer deposits on pistons. Keeps rings and valves from sticking.

2 DISPERSIVE

—Veedol 90 H. D. holds carbon and other finely divided particles in suspension, preventing them from ganging up in trouble-making masses. This matter is actually drained off with every oil change.

3 ANTI-CORROSIVE

—Veedol 90 H. D. protects the new type copper-lead bearings from the corrosive attacks of compounds that result from oxidation.

route than



?



The Famous Veedol P.M. Plan is waiting for you, too!

The Veedol Preventive Maintenance Plan is doing a whale of a job for over 800 hard-working fleets. It can help yours. The plan can be tailored to fit any number of units—and

costs only 18¢ per truck. Write today for a Tide Water representative to call and go over this *proven* lifeguard for rolling equipment. You can't get started any too soon!



VEEDOL

OILS AND GREASES

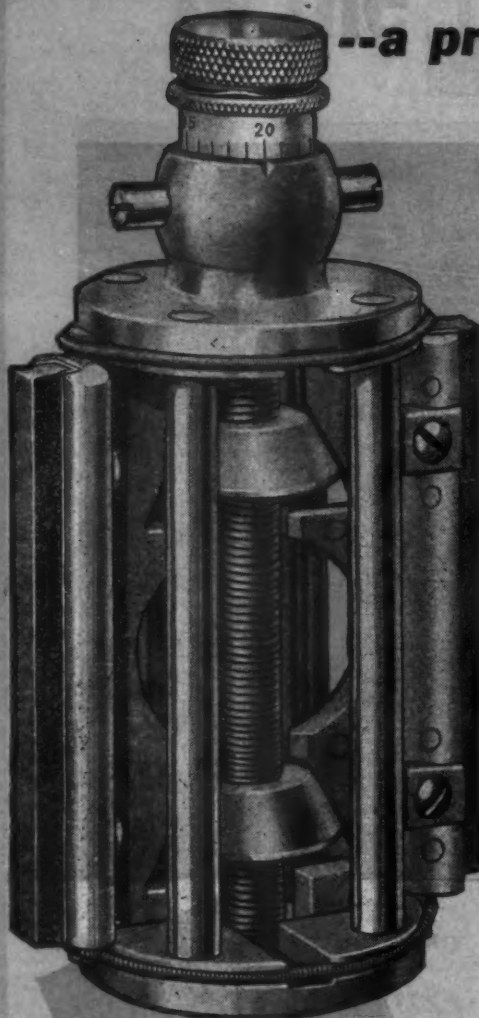


TIDE WATER
ASSOCIATED
OIL COMPANY
New York 4,
17 Battery Place.
Tulsa 2,
Thompson Bldg.

BUY WAR BONDS AND STAMPS

AMMCO SELF-LUBRICATING CYLINDER GRINDER

--a precision hone



● **SAVES TIME... CUTS COSTS...** No vacuum cleaner needed... No flying dust... Completes the job, including clean-up, in half the conventional time.



● **EASY to ADJUST... EASY to OPERATE... ACCURATE...** One set of standard stones and one set of burnishing stones provides maximum cutting speed, and produces a mirror finish.

Model SL400—range 2 3/16" to 4" ... Model SL500—range 2 11/16" to 4 1/2". Extension carriers available to increase range to 5 1/2".

See Ammco Jobber for details.

AMMCO 2100 COMMONWEALTH AVE. NORTH CHICAGO, ILLINOIS

ODT OPA WPB

(CONTINUED FROM PAGE 123)

This means, for example, that draft deferments for food industry employees in the 18 through 29 age group classified 2A or 2B on Jan. 1, 1945, and engaged in private trucking and distributional operations are to be certified henceforth by WFA along with other employees of the industry rather than by the ODT. The ODT's certification authority will be limited to "for-hire" carriers, whose principal activity is transportation, although it will continue to speak and act as claimant agency for all transportation on other manpower matters.

50% More Gasoline May Be Available After V-E Day

An additional 100,000 to 200,000 barrels of gasoline a day—enough to provide possibly as much as 50 per cent more to civilians motorists than at present—may be available after the defeat of Germany, said Petroleum Administrator Harold L. Ickes recently.

Domestic fuel oil, heating oil and kerosene supplies will continue to remain tight, however, he said. This increase may be only a temporary one during the period when the weight of the attack is shifting from Europe to the Pacific, Administrator Ickes stated. How long it would continue would not be determined now.

Deputy Petroleum Administrator Ralph K. Davies emphasized the fact that all estimates as to future supplies are based upon the assumption that there will be made available to the oil industry sufficient manpower and material to permit a continuance of the present all-out operating programs of the Petroleum Administration.

Advises Against Expansion

Members of the Tire Chain Industry Advisory Committee at a recent meeting requested WPB officials to investigate the necessity for new facilities now under construction. The industry, members said, is now meeting its schedules for tire chains and questions the advisability of continuing with the plans for expansion. The new plants, they added, cannot be expected to go into production for months.

HASKELITE

PLYMETL

INCREASES PAYLOAD—Carry up to 1/2 ton more payload every trip. 20-gauge steel, fir plywood and felt liner construction weighs 2.5 pounds total per square foot. 1/4-inch Plymetl weighs 1.5 pounds per square foot. Measure the panel area of your truck to determine your exact savings. Specify Plymetl for greater payload. Write for details.

HASKELITE MANUFACTURING CORPORATION
New York — Chicago — Detroit — Cleveland — St. Louis
In Canada: Railway Power and Engineering Corp., Ltd.

For heavy

KATHANODE

THE ORIGINAL SPUN GLASS BATTERY

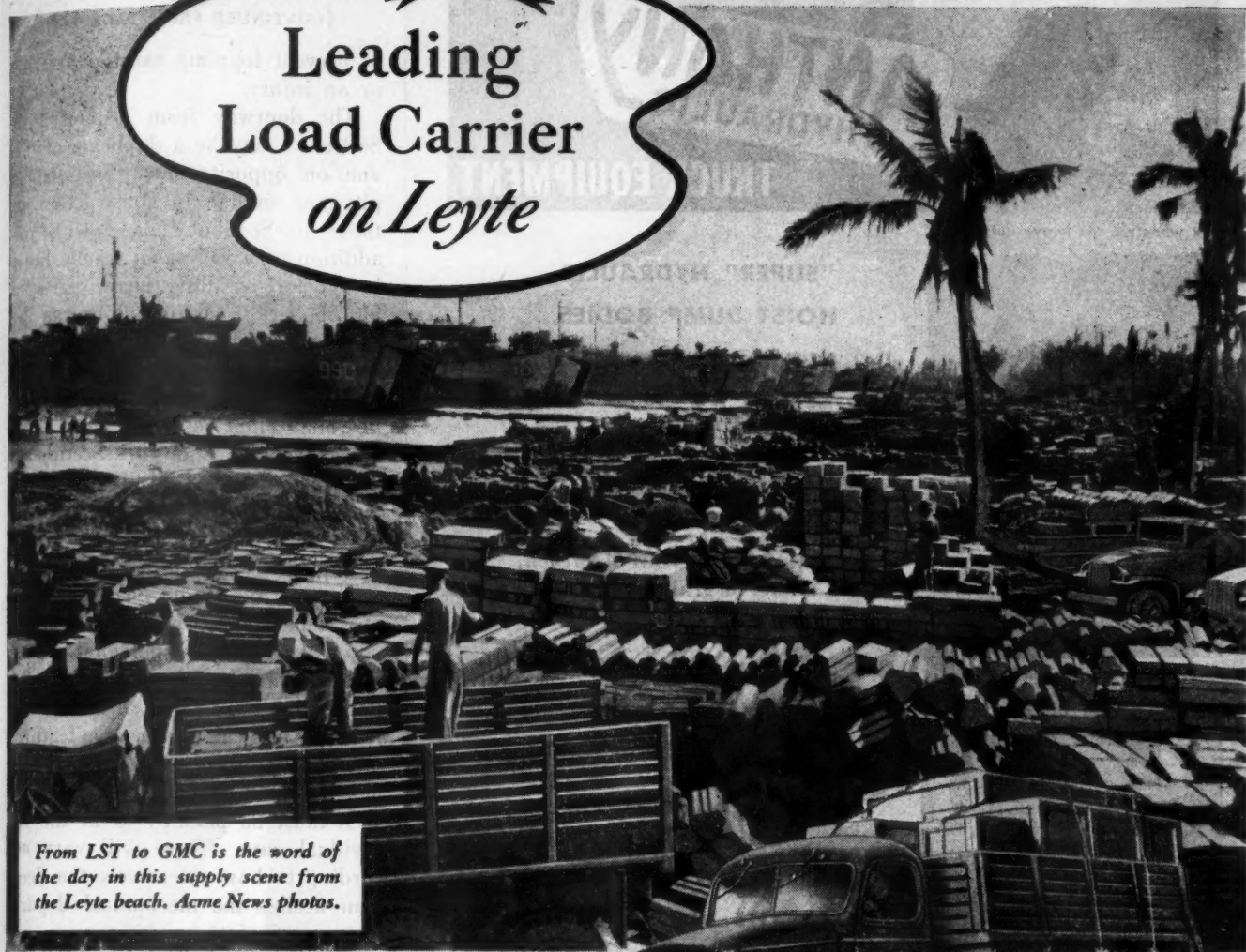


duty service

FOR BUSES & TRUCKS

THE KATHANODE CORPORATION, Chicago, Ill.

Leading Load Carrier *on Leyte*



From LST to GMC is the word of the day in this supply scene from the Leyte beach. Acme News photos.

***GMC Has Built More
than 475,000 Like It!***



The conquest of Leyte, accomplished in but 68 days, is a splendid tribute to the courage and efficiency of American fighting forces, not only on battle lines, but on supply lines as well. The photograph above tells part of the story of the gigantic job of supply. An even better understanding is provided by War Department estimates that overseas Armies are furnished with 700,000 different items of equipment and

supply . . . a ton a month for each man in combat. In the Leyte campaign . . . as at Salerno and Saipan, New Guinea and Normandy . . . the leading load carrier from beach to battle line was the Army's leading transport truck, the GMC 2 1/2 ton "six-by-six." With its powerful "270" engine driving through all six wheels, it has proved to be as much at home in Pacific sand and swamp as in European mud and mire!

In addition to being one of the largest producers of military vehicles, GMC builds many commercial trucks for essential users. Civilian GMCs are powered by engines of the same basic design as the famous "270" used in more than 475,000 GMC "six-by-sixes" — "Workhorse of the Army!"

INVEST IN VICTORY . . .
BUY MORE WAR BONDS

**GMC TRUCK & COACH DIVISION
GENERAL MOTORS**



HOME OF COMMERCIAL GMC TRUCKS AND GM COACHES . . . VOLUME PRODUCER OF GMC ARMY TRUCKS AND AMPHIBIAN "DUCKS"



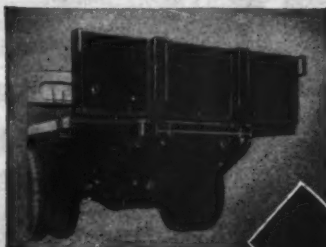
Six wheelers and heavy duty trucks



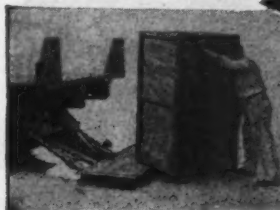
For short and long W. B. chassis



Special for wooden bodies



Solves manpower problem



Write or wire for literature and prices • Nation-wide Sales and Service

ANTHONY CO.
STREATOR, ILLINOIS



PLAN POSTWAR SHOP

(CONTINUED FROM PAGE 41)

to prevent toppling causing damage or an injury.

The doorway from Section 2 to Section 3 may be a duplicate of the one on opposite side. Section 3's pits are similar in construction to those in Section 1, and with the addition of a rolling hydraulic hoist in pit for handling heavy parts, a lot of back-breaking effort can be avoided in addition to speeding up repair jobs. Engines when removed from chassis with mobile hoists can be rolled right through into Engine Department, Section 4. Section 4, working closely with Section 5, almost makes the Electrical and Engine Departments one unit because of the close relationship of the two.

Though the fitting out of the various departments, beyond a certain point, is a matter of personal choice, at least each section must have adequate work benches, bench tools, lockers, and all necessary features for turning out good work with dispatch. The number and placing of such must be planned to fit the individual case. These will vary according to how extensively the fleetman desires the mechanical department to go into working over and machining parts or the building of new parts. The building of new parts is necessary in so many instances now that the supply house so often says: "Sorry, but can't get 'em."

Section 6, the Tire Department, is more important and vital than ever before, and should be equipped to do all types of tire maintenance and repairs including vulcanizing, and in many cases, the complete job of recapping. This is because tires grow steadily more precious.

(TURN TO PAGE 130, PLEASE)

THOUSANDS
IN USE



CHAMPION
Safety
TANKS

Mfg. by ALLIED
Equipment Co., DETROIT
DISTRIBUTED BY

The TRUCKSTELL CO.

1672 Union Commerce Bldg., Cleveland.

To These Features

—add: Patented
Brackets which per-
mit mounting tank
without drilling or
welding—an exception-
ally safe Four-Way
Multi-Selector Tank Valve
—an Optional Straddle Deck
Plate — and you have
the greatest value ob-
tainable.

INVESTIGATE



★ Ring Leaders

Since the earliest days of the automobile, American Hammered has consistently supplied piston rings that are a year or more ahead of the field. American Hammered rings — in every size ... of every type ... for every purpose — are the choice of those who demand the absolute maximum of engineering efficiency and performance! Koppers Company, Inc., American Hammered Piston Ring Division, Baltimore, Maryland.

AMERICAN HAMMERED

★ Flexible Power

The pressure seal ring! The ports — area and placement of which are determined by scientific calculation — permit oil under pressure to be forced into the pressure groove on the down-stroke of the piston. On the up-stroke, pressure is relieved, and the oil is returned to the cylinder wall. The FLEXIBLE POWER ring seals against compression loss and blow-by in direct ratio to engine speeds (the higher the speed, the greater the pressure) ... assures even distribution of oil on the full circumference of the cylinder ... provides perfect lubrication at all speeds. There is a FLEXIBLE POWER set-up especially engineered for every type of engine. FLEXIBLE POWER! Pioneered by American Hammered ... tested on the Proving Grounds of global warfare.

American Hammered Piston Rings

A KOPPERS PRODUCT





Do You Know What Your Road Men Have to Contend With These Days?

BREAKDOWNS... Delays... Breakdowns. And Speeding which causes more Breakdowns. And, with a war going on, what are you going to do about it? You can't get parts, you say. So what's the next best thing?

You can nurse those trucks along. You can study their routes. You can equalize their work. You can cut out speeding which causes breakdowns. You can see that actual breakdown delays are not the same as *wasted time delays*. You can do plenty.

The *Servis Recorder* helps you do all this. On its wax-covered chart it points out the way. Shows what each truck did all day, and night, too. Puts you in control of those trucks, *now*, when it's so necessary. Write us today. THE SERVICE RECORDER CO., 1375 Euclid Ave., Cleveland 15, Ohio.



The Servis Recorder
Tells Every Move Your Truck Makes

PLAN POSTWAR SHOP

(CONTINUED FROM PAGE 128)

A useful piece of equipment for the tire department is the tire inflation rack. Recently I came upon one that was simple to make and at the same time efficient. This rack was made of 2-in. pipe and all-welded including a large iron plate for base which also acted as a stabilizer. From the always necessary power-driven air compressor unit a line was installed to the rack and fitted with a pressure gage and a pre-set, automatic cut-out to avoid over inflation. Not only is a rack of this type a convenience, but it also prevents injury to persons by preventing blown out rims.

Which brings us to Section 7, the Body and Painting Department. The suggested arrangement can be altered or modified to meet individual requirements and the equipment can be as elaborate or as simple as desired. It all depends on the type of body construction and covering and the expected amount of body building, repairing and painting to be done. In most cases, steel body framing can be out of doors, much of this being of the all-welded type. Plate cutting can be done either in or out of doors, depending on the weather conditions. All-wood bodies can be made up in much the same way, except that wood working tools should be under cover or of portable type.

The Painting Sub-department is shown with separate painting and drying sections. For the drying of painted bodies, some form of heating is good practice, speeding up drying time and giving a better and more lasting paint job. Paint locker can be located as desired, its size depend-

(TURN TO PAGE 132, PLEASE)

Compactness **Durability** **Simplicity** **Economy**

Precision Built
INTO EVERY
MARVEL-SCHLEBLER
CARBURETER

MARVEL-SCHLEBLER CARBURETER DIV.
BORG-WARNER CORP.
FLINT 2, MICHIGAN

There's Only One
BURN-OUT PROOF
DIRECTIONAL SIGNAL SWITCH
And we make it!

Available in complete sets of Signal-Stats or as a replacement switch.

ASK YOUR JOBBER Pat. Pend.

SIGNAL-STAT CORPORATION
68 JAY STREET BROOKLYN, N. Y.

Maximum safety — peak performance

is the result when you use

American Brakeblok

TRADE MARK REG. U.S. PAT. OFF.

BRAKE LINING

3 Heavy-Duty Brake Linings

- 1 "REGULAR"
for manually operated
braking systems.
- 2 "1000 SERIES"
for vacuum booster
braking systems.
- 3 "2000 SERIES"
and thick blocks for air-
brake equipment.

AMERICAN BRAKEBLOK, DETROIT 9, MICH.

DIVISION OF

AMERICAN

Brake Shoe

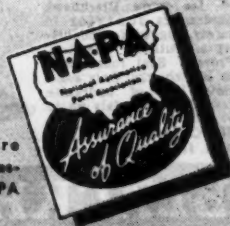
COMPANY



Stopper says —

If you have a tough
brake problem let our
engineers crack it. Use
American Brakeblok's
free advisory service.

Jobbers everywhere
maintain supplies. Mas-
ter stocks in 38 NAPA
warehouses.



"Support the national BRAKE CHECK CAMPAIGN sponsored by the International Association of Police Chiefs."

SPEED WASH FOUNTAIN BRUSH



Cuts Washing Time in Half



Washing trucks and trailers with Speed Wash gets amazing results with little effort and great speed. Clean, fresh water feeds right through the handle and tufts, so that each 12 inch stroke does a complete job of soaking, scrubbing and rinsing. There's no waste motion changing tools and back-tracking over the same surface. You can see how this easily cuts washing work and time in half, does a better job, and also saves the finish.

FULLY GUARANTEED

Put Speed Wash to work on your trucks. If it doesn't measure up to your expectations, return it for a full refund of your money. Order on this liberal basis today. Extend your priority of AA-5 or better, to insure prompt shipment. Make out your check or money order to Milwaukee Dustless Brush Co.

9⁴⁵
post paid if
check accom-
panies order.



"Dustless"—"Speed Sweep"—"Speed Wash"—brushes

Milwaukee Dustless

BRUSH COMPANY

526 NORTH 22nd STREET, MILWAUKEE 3, WISCONSIN

SERVICE-PROVED

YEARS of toughest service prove Blackhawk Hydraulics superior in safety, rugged dependability and utility. "Service-Proved" Seal found only on Blackhawks. Only complete line of hydraulic hand jacks—models up to 50 ton capacity.

BLACKHAWK MFG. CO.
Dept. J1185, Milwaukee, Wis.



BLACKHAWK

WAUKESHA Multi-Fuel ENGINES

DIESEL OIL
GASOLINE
BUTANE

ALL LIQUID OR GASEOUS FUELS

PLAN POSTWAR SHOP (CONTINUED FROM PAGE 130)

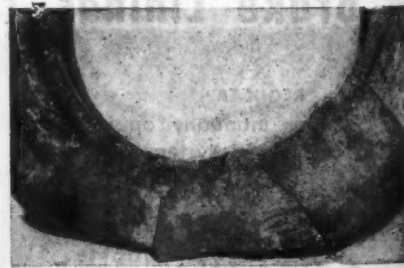
ing on how much paint must be stocked.

For a spread such as we have described, a staff of 16 working one shift should be ample. If body building is contemplated on a large scale, an extra welder may be necessary. Otherwise, the staff would be divided about as follows: eight specialists in their line to act as leadmen, one to a department; two mechanical helpers, one welder, one body helper, one stockroom man, two greasers and one pickup driver who can be used in stockroom when not driving. If possible (there shouldn't be such a word), men selected as leadmen in the service-inspection, mechanical-over-haul, engine and electrical departments should have some general experience that they may help out in other departments when so needed. At times, some particular department is bound to get loaded up. That's when the all-round man is the Joe McGee of the place. And you've got flexibility!

And, now we're down to the pintle hook. We've tried to bring out the desirable points in the sectionized shop department arrangement as garnered from many sources and from observations of actual mechanical procedure. The key point is—*flexibility*. The plan will work for any size fleet without wasting space, by its very arrangement. The work flow is always fluid because each department is free of interference or blockade by any other department. And, you don't have to bust a gallus button getting No. 23 out from behind seven others.

END

(Please resume your reading on P. 42)



Just how hard hit the British were for rubber supplies early in the war is shown in the close-up photo of an English half-track tire used in the African campaign. The tire had seen terrific use and was crudely patched with pieces of rubber nailed to the bead. Several sections of the tire were hand stitched with heavy twine.

In war or peace
B.F. Goodrich
FIRST IN RUBBER



Severe shrapnel wound

A typical example of B. F. Goodrich development in rubber

TIRES often have a short life at the battlefield. Machine gun fire and shrapnel riddle tires with holes. Rough usage tears casings and tubes to pieces.

Before the war it used to be common practice to throw badly damaged tires on the scrap heap. Then B. F. Goodrich men worked out improved methods for repairing large size tires with holes as big as your fist. First they clean around the injury with a special power-driven tool—just as a dentist cleans the cavity in a tooth. In the picture you see the careful preparation made for repairing.

Plies of new cord material are added to the inside of the tire to replace the broken plies which were removed. New rubber is anchored to the outside, and the tread built up to the original surface. Then the entire repair is vulcanized into the body of the tire under high pressure and controlled temperature. After vulcanizing the tire is ready to go back into service with the repaired section practically as strong as the rest of the tire.

Many thousands of tires have been repaired by this method both by Army

men and by B. F. Goodrich men. Thousands of tons of critical materials have been saved from the scrap heap.

The development of simplified permanent repairs on large truck tires is typical of the research work going on constantly at B. F. Goodrich. This research improved not only truck tires but tires for passenger cars, buses, airplanes, farm tractors and implements, and industrial equipment. *The B. F. Goodrich Company, Akron, O.*

B. F. Goodrich
Truck & Bus Tires



Now you can again get Edison Spark Plugs with the permanent, built-in "Spun-On" copper gasket

- good for the life of the plug
- provides 100% leakproof seal between block and plug
- assures even pressure all around when installing plugs
- dissipates heat more efficiently

Only Edison Spark Plugs are made with the "Spun-On" copper gasket—another reason why it pays to replace with Edison's for longer life, and more power.

Yours for the asking, the 1945 Edison Application and Heat Range Chart.

Edison
SPARK PLUGS

Edison-Splitdorf Corporation, West Orange, N. J.



BACKED BY THE
GREATEST NAME
IN ELECTRICITY

ELIMINATING GLARE

(CONTINUED FROM PAGE 82)

one. The remaining vibrations are within the one selected plane.

Polarization is a two-way system. The lens at the lamp does the job of arranging light vibrations in the right direction. That is the one-way job. In addition, there is a secondary lens, called a viewing screen, installed as a windshield visor or in the form of spectacles worn by the driver of each car.

The viewing screen, whatever its form, completes the safety two-way system. The axis of polarization of the viewing screen is arranged in such fashion as to be "crossed" with respect to the axis of the lamp lens. Consequently, when the polarized beam from a headlamp strikes the spectacles or visor it is vibrating in the wrong plane and is almost completely absorbed by the material, thus eliminating all glare. It's almost as if the oncoming car had its lights turned off. It can be appreciated that although the screen of the oncoming car absorbs such light as is normally thrown into the eyes of the driver in either direction, each driver sees his own beam on the road.

The practical difficulty with plane polarized light is that since the lens absorbs the light energy moving in all planes but one, there is an actual robbing of much of the juice delivered by the lamp. At the present time it seems that polarization will cut down over 50 per cent of the useful light on the road.

Where does that leave us? The fact is that we need a lot of light on the road for good safe seeing. We really don't have enough today. If there is not enough, the night driving speed will have to be reduced drastically; even then, there is danger of eye fatigue with its consequent effect upon the physical well being of the driver. This will occur even with a Polaroid system unless the power of the beam is stepped up.

Vehicles now on the road are producing the maximum of light intensity possible with existing electrical systems. With the Polaroid system, capacity would have to be stepped up to two and one-half to three times present output. That means an entire chain of circumstances—larger generators, larger regulators, heavier wiring harness, larger circuit protection.

(TURN TO PAGE 136, PLEASE)

WGB

THE ORIGINAL OIL CLARIFIER

DESIGNED ESPECIALLY
FOR HEAVY-DUTY FLEET WORK

W.G.B. OIL CLARIFIER, INC.
KINGSTON, N. Y.

Gatke
CUSTOM-BILT
BRAKE LININGS

STOP 'EM SAFELY
GATKE CORPORATION
228 N. La Salle St., Chicago 1, Ill.

WHEN THE INDUSTRIAL GIANT RETURNS TO CIVILIAN PRODUCTION



GAR WOOD *Specialized Equipment* will serve again

Gar Wood equipment is "slugging it out" with the enemy on all fronts . . . performing a hundred and one specialized jobs that are a part of modern industrial warfare. Gar Wood engineers are experts in designing equipment for rugged, dependable service.

It is our purpose to produce the best possible equipment of war in whatever quantities are needed by our fighting men. When Victory has been won, Gar Wood equipment will again be available for civilian use.

BUY U. S. WAR BONDS TO ASSURE EARLY VICTORY

Direct-Lift Hoist, Body has Tugged Understructure. Exclusive feature.



Hi-tensile steel Body. Cam and Roller Hoist



Telescopic Hoist and Rock Body



Material handling Crane



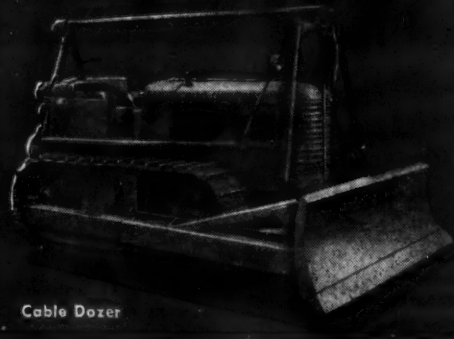
Tractor Winch



4-Wheel Cable Scraper



Cable Dozer



GAR WOOD INDUSTRIES, INC.



DETROIT 11, MICH.

HOISTS AND BODIES, WINCHES AND CRANES, TANKS, ROAD MACHINERY, HEATING EQUIPMENT, MOTOR BOATS

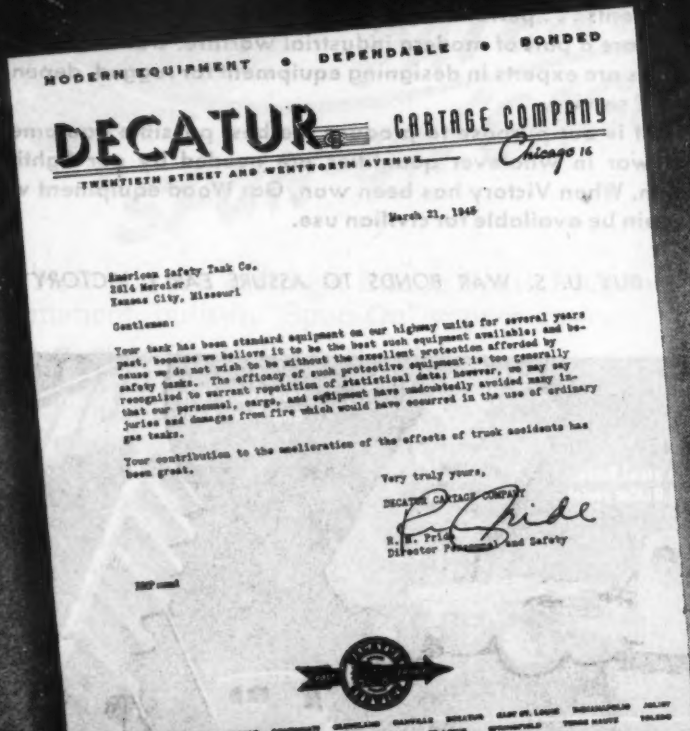
MAY, 1945

Use postage-paid card inserted in this issue at page 59, for free information on advertised products

135



ROAD PROVED by Men Who Use Them!



American Safety Tank Co.

UNDERWRITERS LABORATORIES, INC., A. U., 1302
U. S. PAT. NOS. 2090197 & 2268697
KANSAS CITY 8, MISSOURI, U. S. A.

ELIMINATING GLARE

(CONTINUED FROM PAGE 134)

tive devices, etc. This may seem a pretty heavy price to pay for reducing glare. But if it results in safer driving, in less driver fatigue, and less loss of life and equipment, it may be well worth-while.

Here is where we are on polarized light at this time. You can consider it in the "advanced development" stage with considerable action indicated for the near future by automotive manufacturers.

So far as the new vehicles are concerned you can see that some work still has to be done—like increasing the generator power by nearly one hundred per cent (not hard to do now that the compact bomber generators have been worked out), heavier electrical systems and control switches, etc.

It is the job of converting the older cars and trucks that was once thought to present the greatest difficulty but now it appears that the owners of the older cars will be offered an inexpensive set of Polaroid sealed beam headlamps to be installed like a pair of auxiliary fog lamps. They will provide down-the-road visibility about as good as the new-car headlamps. The beam pattern of these auxiliary lamps will be narrower but visibility will still be a lot better than that provided by old-type headlamps. The whole problem of converting the old cars has been reduced by the large number of vehicles that will be ready for the junk heap by the time the new cars come off the line.

That's how the picture could shape up, based on up-to-the-minute developments in the polarizing headlamp field. As more and more new vehicles would come on the road, and more
(TURN TO PAGE 226, PLEASE)

WHY WE RECOMMEND

THESE four steps insure built-in quality in TUTHILL Springs:

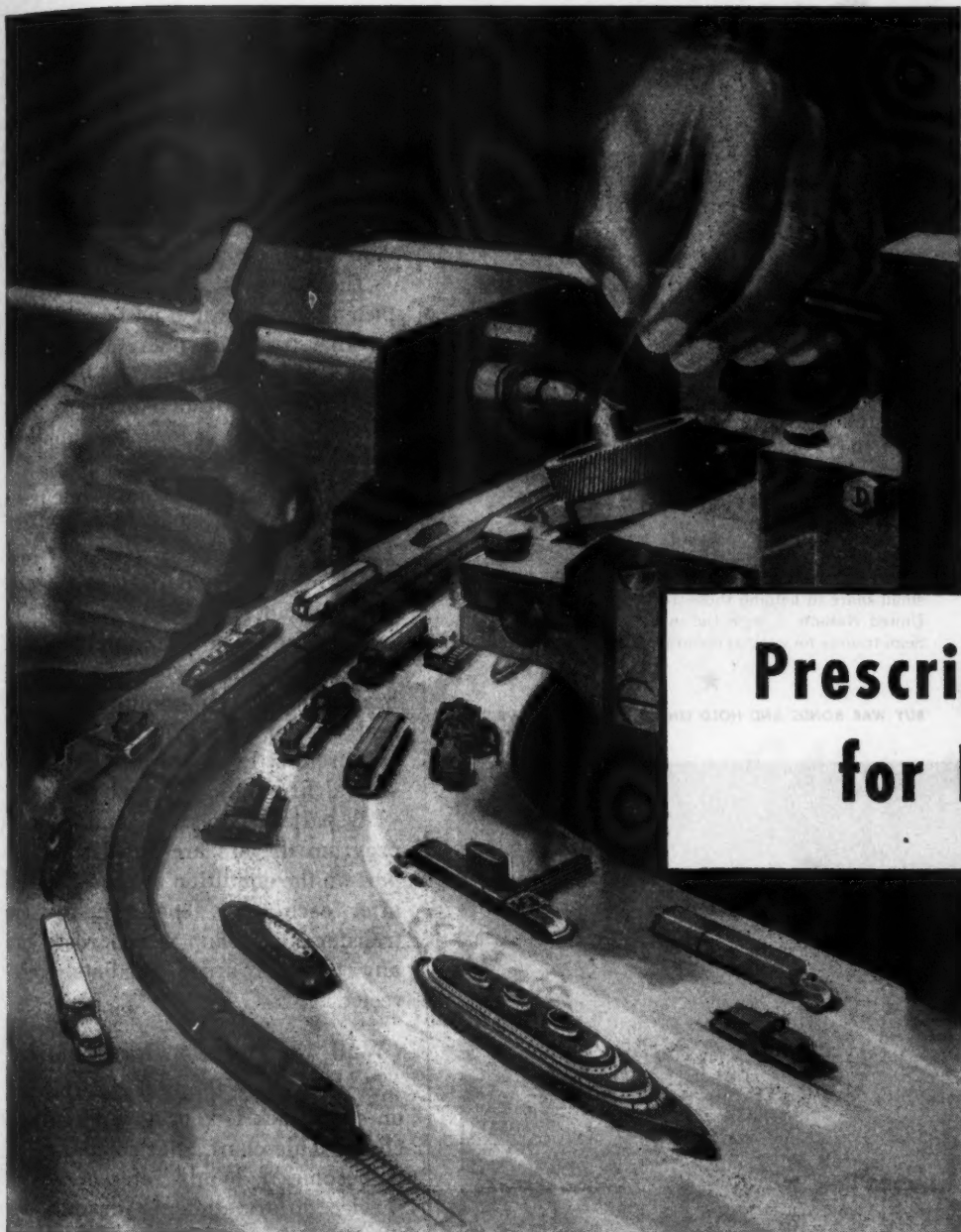
1. Material control based on analysis.
2. Heat treatment, pyrometer controlled.
3. Shot-blasting with latest equipment.
4. Inspection and test for uniformity.

We make both standard and special springs.
Specify your requirements.

TUTHILL SPRING CO.



760 W. POLK ST.
CHICAGO 7



Prescription for Precision

Take a drill as thin as a human hair. Bore finer-than-pinpoint holes through Diesel fuel injection nozzles made of steel. Keep those holes uniform in size; make certain that the angle of each of these pore-like passages is exact so that the fuel may be delivered to the cylinders as a highly-combustible spray pattern of the correct size and shape for maximum engine efficiency.

Those are typical requirements of just one of countless specialized tasks at American Bosch. Two factors make such precision possible. One is craftsmanship that has become a tradition. The other is the knowledge and experience necessary to develop fuel injection and ignition equipment that keeps pace with the accelerating evolution of internal-combustion engines. The combination of these twin skills is known as Precision Production for Power. This is the magnet which continues to draw so many of the Nation's engine builders to American Bosch. AMERICAN BOSCH CORPORATION • Springfield 7, Mass.

AMERICAN BOSCH

PRECISION PRODUCTION FOR POWER

HE'S MORE THAN A

Sky Pilot



He injects morale into our men at the front. He gives fatherly advice to the troubled and lends healing words to the sick and wounded. He's their link between heaven and earth... body and soul... the battle-front and home.

The Chaplain wears the Army uniform and speaks the Army language. He goes into the front lines with them. Soldiers will tell you that he's a regular guy... that they couldn't fight without him.

EDWARDS IRON WORKS, INC.
SOUTH BEND, INDIANA



Edwards is making a sincere effort to contribute its small share in helping these troops... and all of the United Nations... with the material they require. Semi-trailers for combat use are, naturally, included.



BUY WAR BONDS AND HOLD ON TO THOSE YOU HAVE

SIGNAL CORPS PHOTO



EDWARDS



**UNITS
AVAILABLE**

To holders of Certificate of Transfer P. D. 221,
or Government Exemption Permit P. D. 222.

GRICO

2-AXLE DRIVE

19842 W. Eight Mile Rd.
Detroit 19, Michigan



HOOFT FULL POWER GOVERNORS

SEND FOR FREE BOOKLET
HOOFT PRODUCTS COMPANY
6843 SO. LAKAMIE AVENUE, CHICAGO 38, ILL.

HEADWORK SAVES..

(CONTINUED FROM PAGE 47)

auxiliary to and quite necessary for a successful and all-inclusive shop operation as rebuilding operations cannot be carried on without having the necessary replacement parts and without having them readily at hand."

The parts department is so complete that quite often parts are loaned to other truck line operators who are "in a jam." Having once built a stock of parts, Anderson keeps placing new orders before his supply is exhausted.

Some idea of the extent of the parts "stockpile" can be noted in Fig. 7. The shelves include five sets of rear ends for one type vehicle, two sets of another and two sets of another, 18 sets of sleeves, a fine supply of pistons, eight or nine sets of piston rods, brake linings, air compressors, several sets of Spicer universal joints, carburetors, 12 to 14 crankshafts and several fire extinguishers.

As part of its careful maintenance program drivers are required to report on the condition of their vehicles after each trip. These reports are transferred to shop work orders and any troubles are immediately corrected.

Wall Chart Aids Maintenance

A record of the work performed on each truck is kept on a large wall chart. This chart, illustrated in Fig. 8, becomes a handy reference when service information is desired. A glance quickly shows exactly what service, lubrication, maintenance, tire change or major overhaul has been performed on any truck or trailer.

The chart measures about 4 x 8 ft. Across the top is a list of the numbers of the trucks. At the left hand side is a list of the maintenance services. Individual tags for each truck are hung in their correct places. On these tags is listed the record of maintenance. When service is due, the tag is simply turned over so that a large word "Notice" warns the attendant.

With such a system the number of road failures, other than those due to tire trouble is quite limited. Of course, some do occur. In that case, the big wall board in the office shows the type of equipment on each tractor and trailer. Thus, if necessary, reference can be made to this board in

(TURN TO PAGE 140, PLEASE)

HEADWORK SAVES— EYE-CATCHING DECALS PUT "SELL" IN TRUCK ADVERTISING



Courtesy Ben Hur Products, Inc.,
Los Angeles, California

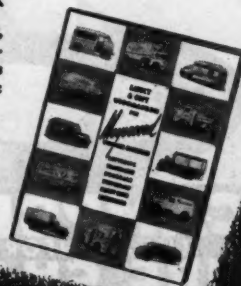
"Sell" with MEYERCORD Truck Decals

Do your trucks...your fleet...properly "sell" your product or services as they roll on their daily runs? Cash in on countless miles and hours of valuable "free" advertising on every truck you operate...with Meyercord Truck Decals. Full color reproductions of trademarks, products, slogans or other subjects...are easily and quickly applied with Meyercord Decals...at a fraction of hand painting time and cost. They're durable, weather-resistant and can be produced in any number of colors, size and

design. Economical for a dozen trucks or a thousand. Reduce "idle truck time" with Meyercord over-night Decal decoration service. Investigate economy and lasting satisfaction of Meyercord Decals for your present or post-war fleet. Free designing service. Address inquiries to Dept. 32-5.

FREE! TRUCK VISUALIZER

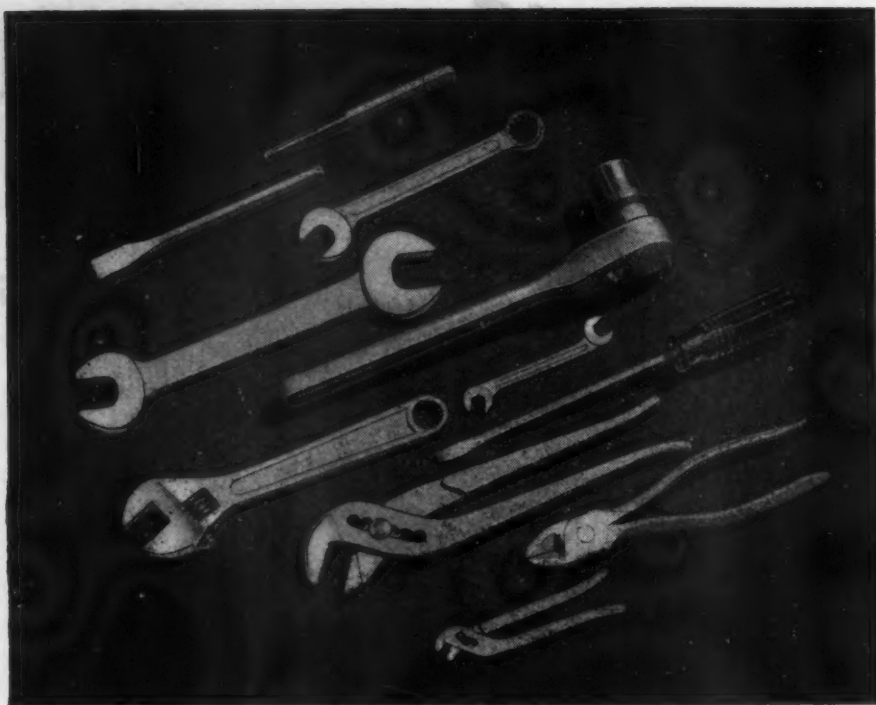
Contains helpful hints on lettering, decorating; with outline diagrams for experimental designing of many body types—from panel deliveries to vans and tank trucks. Send for free copy TODAY!



THE MEYERCORD CO.

World's Largest Decalcomania Manufacturers

5323 WEST LAKE STREET • • • CHICAGO 44, ILLINOIS



HERBRAND TOOLS

save time and labor

Are YOU looking for short-cuts and solutions to problems brought about because of the manpower shortage and the need for turning out more work in less time . . . If so—keep in mind that Herbrand Quality Tools *save time and labor*.

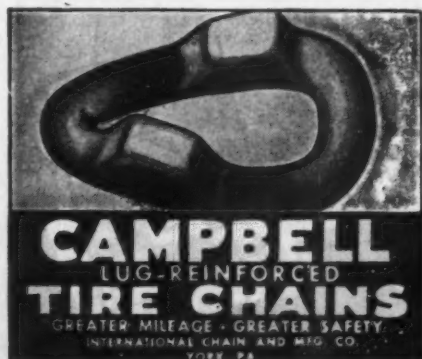
Advanced design and excellence of quality cause experienced mechanics to prefer Herbrand Tools . . . grip, balance, shape—all combine to cause these tools

to raise the efficiency of the worker to the highest degree . . . The present-day demand for these popular tools is great. Should there be an occasion when you are unable to get immediate delivery on certain numbers in our complete line—please understand that war needs come first. Herbrand Quality Tools are *worth waiting for*.

Sold through better jobbers everywhere

THE HERBRAND CORPORATION • Fremont, Ohio

Drop-Forged Tools Since 1881



**USE WHIZ
MOTOR
RYTHM**

to desludge engines
the modern chemical way!



MOTOR RYTHM
A PRODUCT OF *Hollingshead*
LEADER IN MAINTENANCE CHEMICALS

HEADWORK SAVES..

(CONTINUED FROM PAGE 138)

sending out the correct replacement part. Several items, such as block assemblies are kept ready to fill emergency calls.

If within 100 miles, road calls are made direct from the shop. However, the concern has some lines running to New York and other eastern points, and when in this vicinity, drivers are instructed to call for service on dealers handling the make of truck being driven.

The carefully worked out inventory control system maintained by the Jack Cole is one of its greatest assets. A record card, shown in Fig. 9, is kept of each part, as for instance, fog lights. When an order is placed, a notation is made in the proper squares, with the number of parts ordered, the name of company and the date. When the parts arrive, a notation to that effect is made in another space on the card, and a new total noted. Now when one is issued to the shop, a notation is entered as to what truck it goes on and one is subtracted from the number on hand.

The record card is quite complete and, at any time, reflects the exact condition of the stock. Important also is the fact that the card locates the part in stock; that is, it gives the aisle number, the section and the bin number. It is also filed by bin number. This is an advantage in taking stock.

The record card is similar to those used by automotive parts houses and may be purchased in stock form from printing and stationery houses.

Synthetic tires provide the big headache right now, said maintenance superintendent Anderson. Formerly tires were recapped three and four times, but this practice has been discontinued with present tires. This concern has had a number of new tires prove unsatisfactory. Anderson could offer no solution to this condition, due largely to the fact that synthetic tires won't stand up under high road temperature. However, new tractors purchased by the company are governed down to 2400 r.p.m. or around 52 m.p.h. This is expected to result not only in increased tire mileage but also in longer engine life with reduced major overhauls.

END

(Please resume your reading on P. 48)

A Fleet operator reports on Magnesium



W. D. COCHRAN
FREIGHT LINES

Aluminum Company of America,
735 N. Water Street,
Milwaukee, Wisc.

IRON MOUNTAIN
MICHIGAN
Home Office
PHONES-392-2222

December 26, 1944

Attention: Mr. W. R. Butler

Dear Sir:

This afternoon I had occasion to inspect one of the light weight semi-trailers and I thought you would be interested in knowing the condition of the trailers at this time. I have had to operate these trailers under conditions that would emphasize any defects in the material or workmanship, if any existed.

In the manufacture of these semi-trailers, we used mostly aluminum and magnesium alloys only in the top rails that extend along the side of the body and also the roof cross pieces. I was particularly interested in checking these to find out if there was any corrosion. I checked all very carefully and found no corrosion of any kind.

In no place did the material tear, either where riveted to the side corrugated sheets or to the roof cross pieces. I have always been skeptical about the ability of magnesium to carry the stress at the point of riveting and was very pleased to find that it did not tear.

I believe that the manufacturer properly removed the grease.

worry about corrosion. The magnesium alloy I saw that all grease was removed.

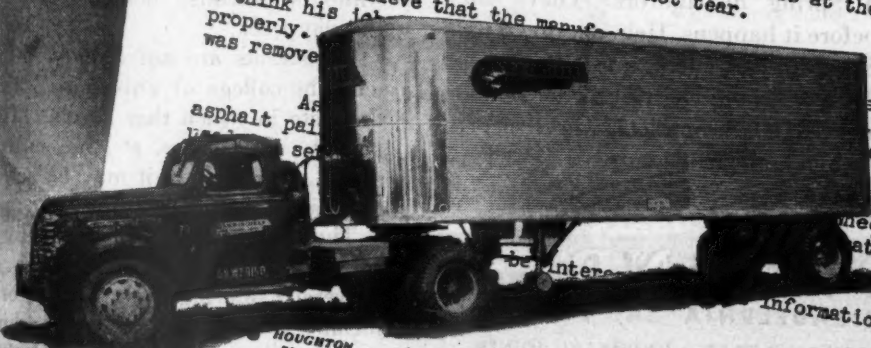
fine chromate and where the chemicals were applied. None was visible.

Information.

Very truly yours,

W. D. COCHRAN FREIGHT LINES,

By *Bill Cochran*
SPECIALIST IN C



WDC:EM

HOUGHTON
Phone 300

IRONWOOD
Phone 660

ISHPeming
Phone 120

IRON RIVER
Phone 787

MAGNESIUM



PRODUCTS

AMERICAN MAGNESIUM
CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA



Tough Trail to Victory

Call nearest Rowland Distributor. He's supplied by these branches:

ATLANTA 3, Ga., William and Harvey Rowland, Inc., 449 Marietta St., N. W.
BIRMINGHAM 3, Ala., Birmingham Spring Service, Inc., 2017 Avenue B, South
CHICAGO 16, Ill., William and Harvey Rowland, Inc., 2732 Indiana Avenue
JACKSONVILLE 4, Fla., Jacksonville Spring & Alignment Co., 137 Jefferson Street
PHILADELPHIA 30, Pa., William and Harvey Rowland, Inc., 1414 Fairmount Ave.
PITTSBURGH 13, Pa., Point Spring Co., 419 Melwood St.

Wherever the going is toughest, on every front Rowland Springs have proved their dependability. This added proof of stamina merely re-emphasizes Rowland's 100 year leaf-spring-making reputation. Of equal importance to you, however, is the specialized spring service rendered by nearly a thousand Rowland Spring distributors. They catch trouble before it happens. Help cut down road delays. Keep spring costs at a minimum. Call on your local Rowland Distributor for service, as well as SPRINGS, mufflers, wheel suspension parts and universal joints.



WM. and HARVEY **ROWLAND** INC.
FRANKFORD, PHILADELPHIA 24, PENNA.

SPRINGS • MUFFLERS • WHEEL SUSPENSION PARTS • UNIVERSAL JOINTS

150th ANNIVERSARY OF AMERICA'S OLDEST LEAF SPRING MANUFACTURER

Permalux
"KOLORFILM" DECALCOMANIA

FIRST IN { APPEARANCE
ECONOMY
DURABILITY

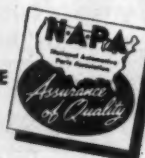
Still Made With DuPont "DULUX"
Write Today for details

THE PERMALUX COMPANY
900 10 West Lake Street, Chicago, Ill.

FOR PROMPT COMPLETE SERVICE
ON AUTOMOTIVE PARTS...

*Your NAPA Jobber
is a Good Man to Know!*

NATIONAL AUTOMOTIVE
PARTS ASSOCIATION
Detroit 1, Michigan



BACK TO SCHOOL

(CONTINUED FROM PAGE 71)

mately, are coordinated, and since 1939 other centers have been set up and extended.

The curriculum in the college driver-schools recognizes that proper training lies in the hands of each individual operator. This training, however, is not a wartime emergency measure but a long-range program for the future.

The general aim of the program is to help supervisors get the greatest possible production from the limited manpower and equipment on hand. In some courses special attention is devoted to the exigencies that arise when it is necessary to operate old equipment. The methods discussed are applicable to peacetime as well as wartime operations.

The course is usually offered by the college or university in one of its campus buildings, although it may be offered in extension because of the propinquity of large fleets.

There are no entrance examinations or tuition charges and in all colleges only a registration fee of \$10 is required. In the majority of cases the only cost to the student is transportation to the city where the school is in session and maintenance while he attends "college" for the five-day week.

Registrants are not obliged to attend the college or university within the state in which they reside. This permits attendance at the nearest school, even though it may be across the state line.

The course director is usually a representative from the college or university offering the program, or a member of the staff. The teaching staff is selected from representatives of the national sponsoring organizations. Nationally recognized authorities. (TURN TO PAGE 144, PLEASE)



PURITAN
Super
BRAKE FLUID

**MAKES
RUBBER PARTS
LAST LONGER!**



There's Profit for You



and savings for your customers in ...

Correct Operation

↑ When changed at proper time, a DeLuxe Cartridge will be uniformly loaded with contaminants; will be heavy, firm and SHOW NO SIGNS OF SLUDGE!

↓ The danger line ... this cartridge is ready for replacement.

DELUXE Cartridge Diagnosis

Examine every DeLuxe Cartridge you take from a DeLuxe Filter. Each tells a story of *what is going on inside the engine!* The cartridges shown here illustrate the method of diagnosis. Study these pictures, remembering that as so far as is known, such diagnosis can be made only with DeLuxe Cartridges from DeLuxe Filters. Diagnosis is simply another reason why fleet operators who know-by-test prefer DeLuxe!

Faulty Engine Conditions

CARBURETOR OUT OF ADJUSTMENT Cartridge appears mushy, light in weight. Result: Impaired efficiency.

BLOWBY. Cartridges soggy, heavy, bad odor. Result: Short cartridge life. Check timing, ignition and ring condition.

COLD MOTOR. Check Thermostat and oil viscosity; also engine temperature. See DeLuxe Temperature Chart, Page 12 of Free booklet "Keeping Engines Young."

WATER. Condensate or leak. If leak from engine, considerable water will be found in the sump of DeLuxe filter.

DELUXE Oil Filter
ACTUALLY CLEANSES OIL

DELUXE PRODUCTS CORPORATION, 1414 Lake Street, La Porte, Indiana

Operating
profits
go UP



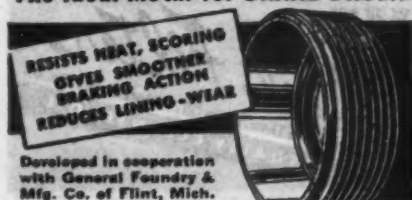
Maintenance
costs
go DOWN

Less frequent replacement is the rule on trucks, buses and road building machinery equipped with RBC roller bearings. The rollers and races are made of tough hardened, high carbon alloy steel, providing greater load capacities and eliminating bearing failures, thus bringing an end to costly interim repairs and service. Prompt attention to your needs can be secured from the RBC distributor in your territory.

ROLLER BEARING CO. of AMERICA
TRENTON . . . NEW JERSEY

**ROLLER BEARINGS FOR AUTOMOTIVE
AIRCRAFT AND INDUSTRIAL USE**

MEEHANITE
The Ideal Metal for BRAKE DRUMS



RESISTS HEAT, SCORING
GIVES SMOOTHER
BRAKING ACTION
REDUCES LINING-WEAR

Developed in cooperation
with General Foundry &
Mfg. Co. of Flint, Mich.

Motor Transport Mileage Cut

Although hauling greater tonnage than ever before, private motor carriers are operating throughout the nation at mileage savings of nearly one-third over 1941.

The over-all reduction was accomplished through conservation efforts of the carriers themselves, through collective joint action arrangements, and through the conservation requirements of ODT.

BACK TO SCHOOL

(CONTINUED FROM PAGE 142)

ties in their particular fields are often members of the faculty.

The classes are scheduled each day, Monday through Friday, from 8 a.m. to 12 noon, and from 1 p.m. to 6 p.m. Night sessions are sometimes scheduled. The size of the class is usually limited to 40 so that individual instruction is possible.

The classes are divided into small groups, each being responsible for the presentation of certain units as a means of attaining experience or to practice teaching.

Practical laboratory and field exercises include the use of driver testing equipment. Special driving skill-developing exercises are demonstrated with each member of the class participating as pupil and then as teacher.

Each class member learns how to give the road test for selecting and training drivers by checking at least one driver. For the road test in traffic a route is selected at least five miles long. It includes right turns, left turns, stop signs, traffic lights, railroad crossings, grade and other traffic situations common to the locality.

Sound records, film strips, motion pictures and visual aids are used to augment oral and written lessons. An adequate reference library is provided as well as individual coaching or "boning" for classroom work.

The course closes with a dinner to honor the graduates who are presented with diplomas.

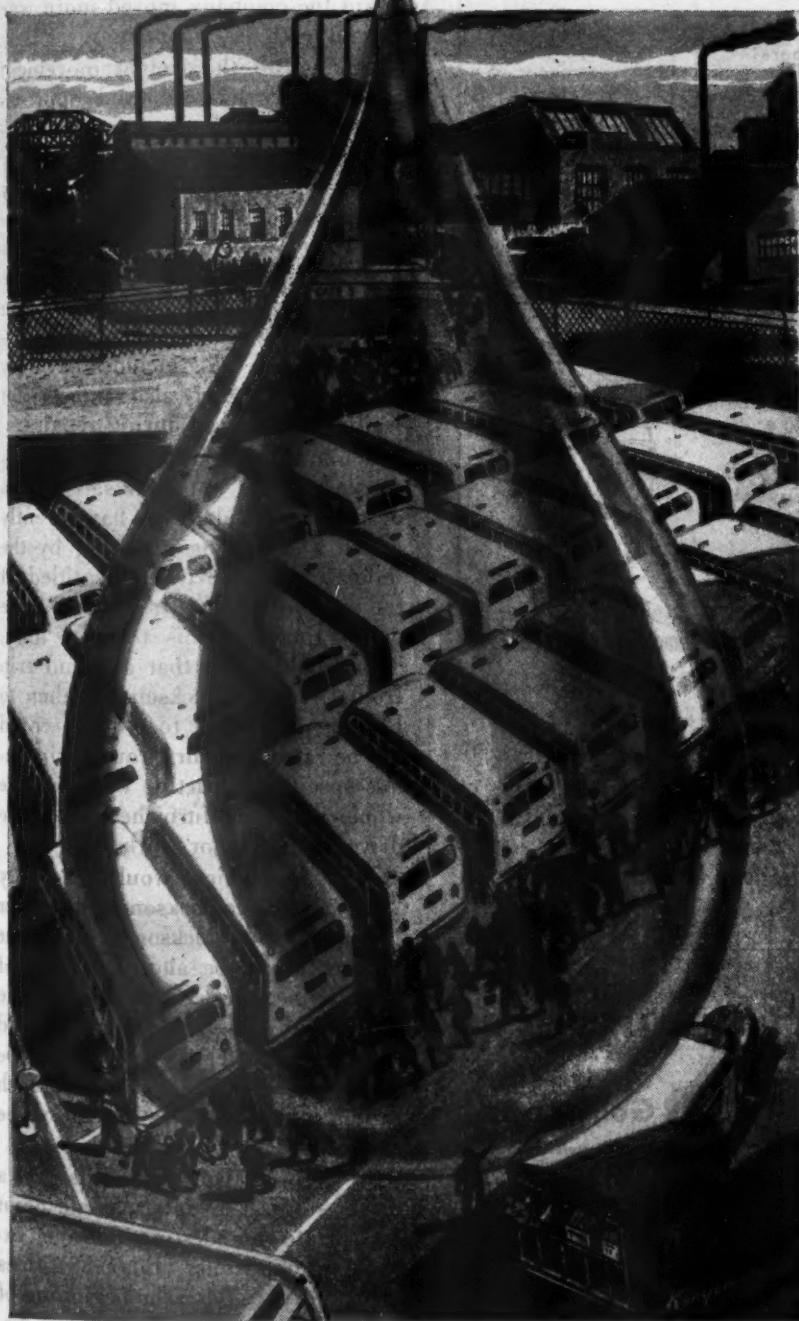
Safety, personnel and operating executives are emphatic in commending the value and benefits of the course. One operator states that accidents have been reduced 50 per cent as the result of one of his fleet supervisors graduating cum laude from one of the driver-schools.

Other operators are unanimous in asserting that the specialized "college training" is constantly reflected in safe and more economical operation of plants and equipment as well as improvement in customer relations.

It is a challenge that is meeting with increased response among astute motor carriers who realize that the lessons learned in these driver-colleges may mean fewer headaches for operators of one vehicle or 1000.

END

(Please resume your reading on P. 72)



Today you need motor oil
that contains a really

stable detergent

NEVER has there been a time when so much was expected of trucks, buses and tractors...as today. Never has there been a time when so much need existed for a markedly better motor oil. That is why Quaker State HD Oil was developed.

You need an oil that lubricates better...longer. Quaker State HD Oil supplies that necessary service. But, because of the remarkable detergent it contains, Quaker State HD Oil also keeps engines cleaner.

And this is no ordinary detergent. It is *stable*. You can depend on it. That's a uniform characteristic of Quaker State HD Oil. It has extraordinary lasting-power under extremely severe service conditions—leaves no trouble-making deposits of coky residue, sludge or "varnish."

Now is the time when you need Quaker State HD Oil more than ever. Give your equipment and servicemen a lift—try it!

Buy more than before — SUPPORT THE 7th WAR LOAN

**QUAKER STATE
HD OIL**

AND QUAKER STATE SUPERFINE LUBRICANTS

Quaker State HD Oil for your trucks, buses and tractors
Quaker State Motor Oil for your passenger cars

QUAKER STATE OIL REFINING CORPORATION • OIL CITY, PENNSYLVANIA



with K-D's fast 380,
it's as easy as...

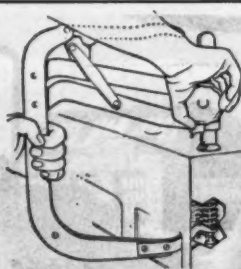
1

After adjusting jaws to spring diameter, release Ratchet Lock and turn Hand Wheel until Plunger Bar is at full height.



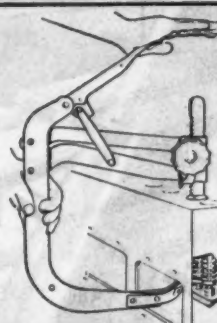
2

Put 380 on valve, Operating Handle down. Raise first spring by turning Hand Wheel. When keepers are out, raise Operating Handle, proceed to next valve.



3

With Operating Handle up and depth adjustment already set by operation 2, all the remaining springs are compressed by using Operating Handle only. It's simple, fast and easy, isn't it?



**K-D
TOOLS**

The K-D line of patented "hustlers for your toolbox" includes hand Lifters, special tools for Ford motors, Ignition Tools, Piston Ring Tools and many others. If you don't have a late K-D Catalog, write.

Help defend the U. S. Patent system—Patents make Jobs.

LANCASTER, PA. AND HAMILTON, ONT.

**THE COMPLETE LINE
THAT COMPLETELY SATISFIES**

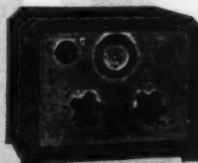


THE FITZGERALD MFG. CO., TORRINGTON, CONN.

**FITZGERALD
GASKETS**

**VALLEY CHARGERS
HAVE**

Gone To War



Remember Valley Chargers... when we can again supply you with these simple, efficient and economical battery-charging units.



VALLEY ELECTRIC CORP.
4221 Forest Park Blvd., St. Louis, Mo.

INCENTIVE PAY

(CONTINUED FROM PAGE 49)

A random example from our records shows how the driver benefits. The first trip was made in 4 hours, the second 3 hours, and the third, 3¼ hours, making a total driving time of 10¼ hours. Under the union scale, this would amount to \$9.94. However, under the 6-hour guarantee for the first trip, he received pay for two extra hours, making a total of 12¼ hours of \$11.88, and \$1.94 more than the scale. Thus, he earned two hours' premium pay as an incentive for greater productivity and again the company moved more war freight with less manpower.

Setting up the freight movement in this way has achieved approximately the same average hourly earnings per hour worked for all highway drivers. It has promoted harmony among drivers, and bidding for certain runs no longer is a difficult problem. Whereas the average under the contract would be about 97 cents an hour, the average now is approximately \$1.12. This includes not only driving time, but also time spent waiting loading or during repairs.

While this premium pay plan has worked to the apparent satisfaction of all concerned, there has recently arisen a disturbing insistence by the union that the driver is entitled at the beginning of his trip to know the entire route for his tour of duty. This would mean that a round trip from Detroit to Jackson and then to Lansing and back to Detroit could not be rated as a turnaround trip unless specific instruction covering the whole trip were furnished when the driver reported for work.

If his instructions would read only "from Detroit to Jackson with further instructions at Jackson," or if the routing would be altered at one of the intermediate terminals, the entire trip would cease to be a turnaround trip and each leg would have to be rated as a separate through run, each calling for a guarantee instead of the usual mileage or hourly rate.

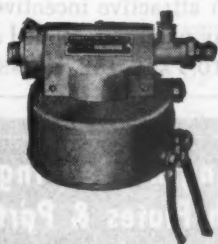
It even is contended that if a driver stops at an intermediate point enroute to his destination and exchanges his trailer, this constitutes the end of a run and the beginning of a new one, with each of these dis-

(TURN TO PAGE 150, PLEASE)

— DRIVERS and EQUIPMENT with the **SAFETY** of CONTROLLED BRAKING POWER



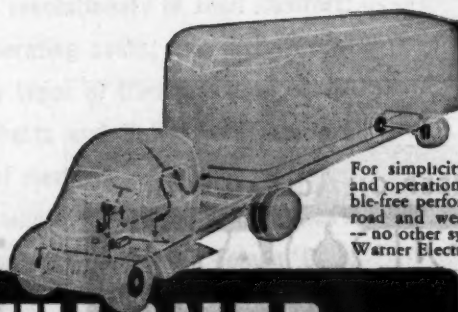
VARI-LOAD ELECTRIC BRAKES



NEW WARNER CONTROLLER NOW AVAILABLE FOR PRESENT TRAILERS HAVING WARNER ELECTRIC BRAKES

The new Warner Controller—simple and compact—synchronizes the hydraulic brakes on tractor with the Electric Brakes on trailer. The tractor's regular foot pedal operates both braking systems. This development creates smooth foot-touch tractor-trailer braking under all conditions—eases driving strain—assures greater safety. Controller is easily and quickly fitted into hydraulic brakeline. See your Warner dealer about changing over your present equipment.

FOOT PEDAL PRESSURE
CONTROLS BRAKES ON
BOTH TRACTOR AND
TRAILER



For simplicity of installation and operation—for safe, trouble-free performance under all road and weather conditions—no other system can match Warner Electric Brakes

WARNER

ELECTRIC BRAKES

INCENTIVE PAY

(CONTINUED FROM PAGE 146)

tances, no matter how short, requiring a 6-hour minimum trip guarantee.

This type of thinking lays an ax at the root of the root of the trucking industry's principal competitive advantage, namely, flexibility and freedom of movement. Whereas railroads are bound to fixed schedules, a large portion of truck movements depend on overnight deliveries and unpredictable scheduling. Between the time a driver leaves the home terminal and the time he arrives at an outlying one, dispatch orders may come through requiring him to take an entirely different route from the one scheduled at the time of his departure. It is this extreme adaptability to change course and go to any point on short notice that is the secret and success of the trucking business. This applies particularly to the short haul operator.

Most of the hauls of the U. S. Truck Co., for instance, are no longer than 60 miles. They are the rolling links between the thousands of small manufacturers and tool and die shops and Michigan's famous giant assembly plants. These interplant freight moves are carefully synchronized with the production schedules of the major assembly lines and accordingly are continuously subject to unpredictable fluctuations, which in turn dictate frequent last minute re-routing of truck dispatching.

This puts a terrific burden of responsibility on the drivers of these loads. In the last analysis, it is the man behind the wheel who gets the freight to its destination. Whenever possible, then, truck operators should make it their obligation to reward the drivers with attractive incentives and premium pay plans as outlined above.

(TURN TO PAGE 152, PLEASE)

9" LATHE FEATURES

Fine workmanship by highly experienced machine tool craftsmen

Superfinished spindle with large bearings

Belt drive for smooth, quiet operation at high speeds

Back-gear drive for power and low speeds

Six, eight or twelve spindle speeds

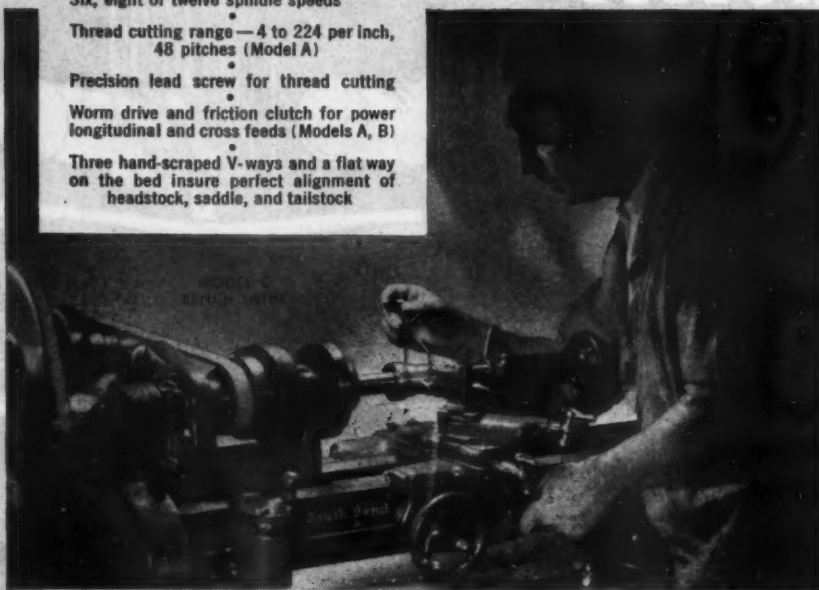
Thread cutting range—4 to 224 per inch, 48 pitches (Model A)

Precision lead screw for thread cutting

Worm drive and friction clutch for power longitudinal and cross feeds (Models A, B)

Three hand-scraped V-ways and a flat way on the bed insure perfect alignment of headstock, saddle, and tailstock

Versatility FOR YOUR SHOP



Today, when you must make the most of time and materials, the versatility of a South Bend 9-inch Lathe makes it one of the most essential pieces of equipment you can own. For all classes of service it is an indispensable tool, especially when worn parts must be

reconditioned or rebuilt,

or new parts must be fashioned from old. As a profit maker and time saver a South Bend Lathe represents the best investment you can make because it will enable you to handle more work with greater accuracy. Write for our catalog describing this and other sizes of South Bend Lathes.



Lathe Builders For 58 Years

SOUTH BEND LATHE WORKS

445 EAST MADISON STREET • SOUTH BEND 22, INDIANA

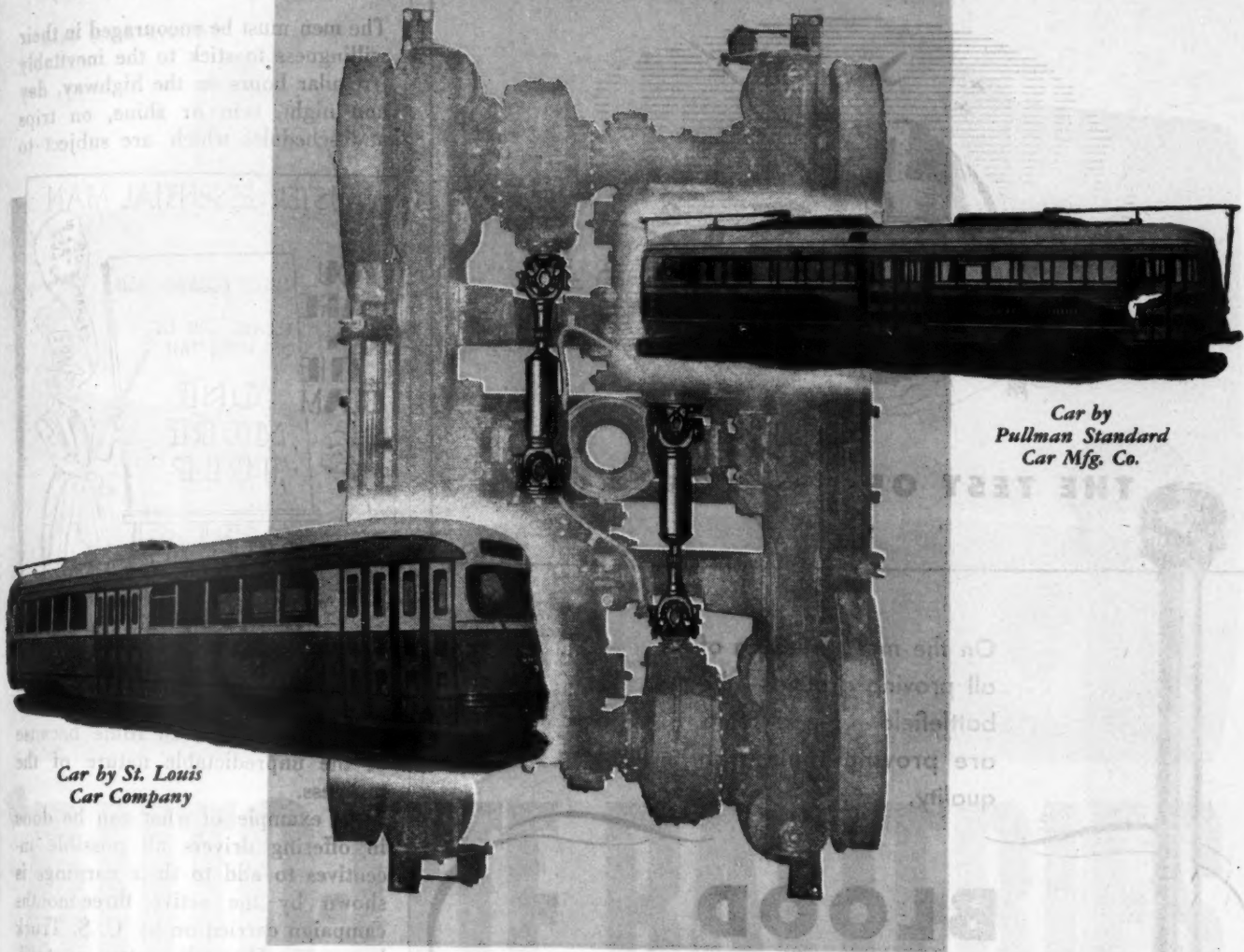


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Newark 2, N. J.
Founder and leader of the oil filter industry

Specify
Velvetouch
BIMETALLIC FRICTION MATERIAL
for
CLUTCHES AND BRAKES
THE S. K. WELLMAN CO.
CLEVELAND, OHIO

For Engine Bearings
Clutch Plates & Parts
King Bolt Sets

Monmouth
is the name



Car by
Pullman Standard
Car Mfg. Co.

Car by St. Louis
Car Company

SPICER-EQUIPPED TRUCKS

Revolutionizing Street Railway Transportation!

• Spicer Cushioned Propeller Shafts and Universal Joints are in daily service in Clark Silent Electric Railway Trucks, under more than 2400 swift streamlined cars in 16 major cities of the United States and Canada. Clark Trucks are revolutionary in their comfort; quiet smoothness; tremendous acceleration; their low operating costs; and their acceptance by an appreciative public. • This is one of the many types of transportation equipment in which Spicer Transmissions, Axles, Propeller Shafts and Universal Joints are helping transport millions of people, and millions of tons of merchandise, millions of miles each day. When our war obligations are fulfilled, we again will be ready to serve America's civilian needs with fulltime production. Spicer Manufacturing Corporation, Toledo, Ohio.



MOUNTED CLUTCHES AND TRANSMISSIONS • SALISBURY FRONT AND REAR AXLES

SPICER UNIVERSAL JOINTS • PARISH FRAMES, STAMPINGS



On the most gruelling of all proving grounds—the battlefield — Blood Joints are proving their high quality.



BLOOD BROTHERS UNIVERSAL JOINTS

FOR EVERY NEED OF POWER THROUGH ANGULARITY

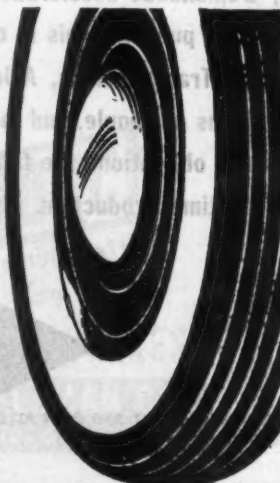
BLOOD BROTHERS MACHINE CO.
ALLEGAN, MICHIGAN
DIV. STANDARD STEEL SPRING CO.

GASOLINE *Sterling* DIESEL HEAVY DUTY MOTOR TRUCKS

For more than 37 years Sterling has been building quality motor trucks. They are distinctively rugged trucks, engineered and built to haul heavy loads economically and at more profitable speeds.

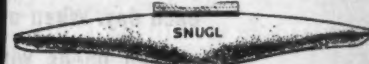
Specific heavy duty four and six wheel models are offered for highway transportation, mining, quarrying, logging, stripping, excavating, etc.

STERLING MOTORS CORPORATION
MILWAUKEE 1, WISCONSIN
Branches in Principal Cities



SNUGL FAD-A-WAY AUTOMOTIVE WHEEL BALANCING WEIGHTS

TRUCKS • BUSES • PASS. CARS



PAT. NO. D-119-321—D-5189

FACTORY
MID-WESTERN AUTO PARTS
KOKOMO, IND.

WEST COAST DIS.
MID-WESTERN AUTO PARTS
910 W. PICO BLVD.
LOS ANGELES 15, CALIF.

INCENTIVE PAY

(CONTINUED FROM PAGE 150)

The men must be encouraged in their willingness to stick to the inevitably irregular hours on the highway, day and night, rain or shine, on trips and schedules which are subject to

MISTER ESSENTIAL MAN



change even while en route because of the unpredictable nature of the business.

An example of what can be done in offering drivers all possible incentives to add to their earnings is shown by the active three-months campaign carried on by U. S. Truck last year. Through posters on trailers, the slogan "One More Trip Per Week" and the designation of the driver as an "essential man" were promoted vigorously. During May, the opening month of the drive, tonnage jumped 13 per cent and the payroll of highway drivers 14 per cent. The average increase for the following six months was about 5 per cent for both tonnage and payrolls.

END

(Please resume your reading on p. 50)

BUY WAR BONDS



"AUTO-LITE BATTERIES

are tops for Service...keep costs down"

says HARRY SNURE, American Carloading Corp.
Detroit, Michigan

"FOR 4 years Auto-Lite batteries have topped all records for us in our 24-hour-a-day heavy duty hauling," says Mr. Snure. "That's why they are standard in every one of our 140 units."

This isn't an unusual case. Fleet owners from coast to coast are using the famous Auto-Lite battery for all types of jobs. They help keep operating costs down. Auto-Lite battery users know these great batteries are full of power, ruggedly built and dependable under the toughest operating conditions. Put them on test in your fleet today. See your supplier or write to



AUTO-LITE
Batteries

AUTO-LITE BATTERY CORPORATION, TOLEDO, 1, OHIO

Manufacturing Plants at: Niagara Falls • Indianapolis • Atlanta • Oakland • Oklahoma City • Toronto

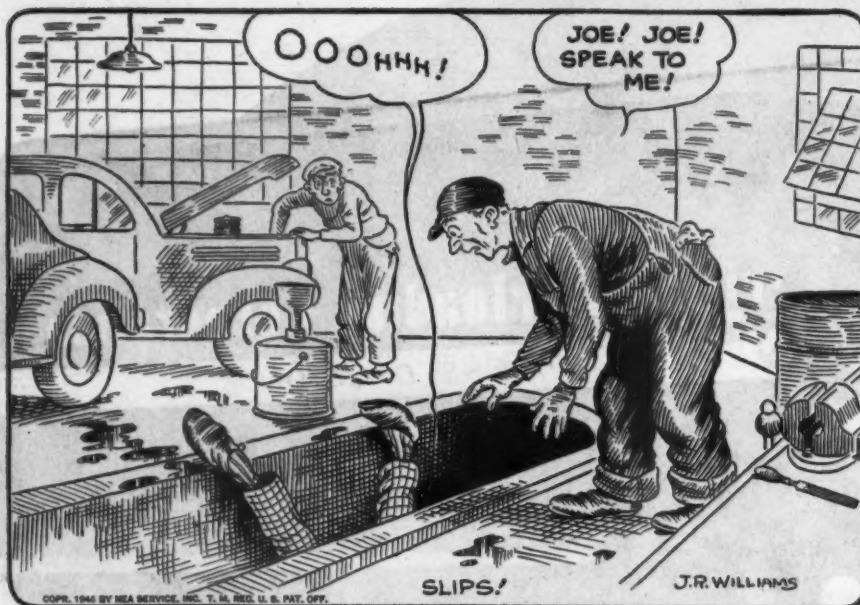
TUNE IN "EVERYTHING FOR THE BOYS" STARRING DICK HAYMES—EVERY TUESDAY NIGHT—NBC NETWORK

MAY, 1945

Use postage-paid card inserted in this issue at page 59, for free information on advertised products

153

OUT OUR WAY



Above is a portrait of a mechanic, deciding to take up some other business, when, as, and if he gets out of the hospital.

With SOL-SPEEDI-DRI, you can end the dirty, dangerous accumulations of oil and grease on the floors around your shop, garage, gas station, truck or bus terminals.

SOL-SPEEDI-DRI is easy to use and inexpensive. It cuts down accidents, falls, and the dangers of fast-spreading fire...makes employees slip-happy.

SOL-SPEEDI-DRI, white, dry and granular, is oil-thirsty, absorbs oil like a blotter does ink. Spread a carpet of it, wherever oil and grease accumulate and you immediately have a white, non-skid surface. Sweep it up, and the floor will be clean, dry, and safe. No more mess, no more slipping, no more back-breaking floor-cleaning jobs.

Write your name and address on the margin of this page for a Free Sample and complete details.

SUPPLIERS: East — Refiners Lubricating Co., New York 1, New York.
Midwest & South — Waverly Petroleum Products Co., Philadelphia 6, Pa.
West Coast — Waverly Petroleum Products Co., Russ Bldg., San Francisco 4, Calif.



TRUXMORE

WORLD'S BEST 3RD AXLE

CARRIES two payloads in one.
SAVES in first cost (up to 40%), on insurance (up to 50%), fuel costs (up to 20%), tires (50% to 100% longer life), road time (up to 20%), breakage of fragile loads, license fees, dead weight, maintenance costs.
Write for Circulars

DOUBLES YOUR TRUCK CAPACITIES



NATIONWIDE SALES & SERVICE THRU TRUCKSTELL DISTRIBUTORS

**Be
100%
With
10%
Buy
War
Bonds**

QUIZ ANSWERS

CCJ Quiz on Page 90

1. c. 160. Since the camshaft is driven by the crankshaft and rotates at exactly one-half the speed of the crankshaft, there would have to be twice as many teeth on the camshaft gear.

2. b. The Michigan Tool Co. of Detroit has designed an automatic gear cutting machine that cuts all of the teeth around the circumference of a gear simultaneously. The orthodox shaper or hobber cuts one or a few teeth at a time, a rather slow process. The new machine, called a "Shear-Speed" machine, is capable of rough and semi-finish cutting of 60 to 100 gears an hour.

3. a. In high gear one turn of the engine will make one turn of the drive shaft.

4. a. Gear D makes 180 revolutions per minute. The intermediate or idling gears B and C have no effect on the speed of the final gear, and the speed of gear D is just the same as if it were meshed directly with gear A.

b. Gear D would turn counter-clockwise.

5. a. Backlash is the clearance between the gear teeth as they mesh together.

6. a. Credit for the invention of gears has been given to the Egyptians. The Egyptians used gears to lift water from a well or stream. The gears consisted of crude wheels with wooden pegs in the rim. Power was provided by an ox walking in a circle. The wheels were mounted at right angles, thus transmitting power from a vertical shaft to a horizontal one. Buckets on the rim of a third wheel picked up the water.

7. Transmission; rear axle; differential; timing gears; steering gear; flywheel starter gear; some types of oil pumps.

8. 1. addendum circle; 2. pitch circle; 3. base circle; 4. dedendum circle.

9. b. Casehardened steel. Such steel is brought to a high temperature and then suddenly cooled. This results in a glass-hard surface to resist wear and a tough center to give strength, making it very suitable for many types of gears.

10. 1—d; 2—a; 3—i; 4—h; 5—b; 6—c; 7—g; 8—j; 9—f; 10—e.

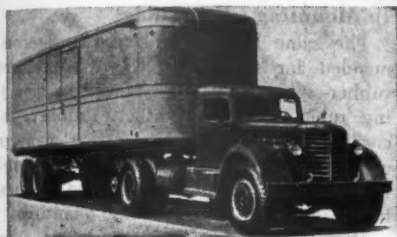
END

(Please resume your reading on p. 92)

Federal '45 Schedule Calls for 10 Models

Federal Motor Truck Co. will produce 10 different models for essential civilian use during 1945. These commercial trucks, already in production, are being built together with heavy duty military vehicles on the same assembly line. The 10 models authorized by WPB are manufactured in a wide range of power ratings, gear ratios and wheelbase lengths in varying tonnage capacities. Distribution will be through authorized dealers to civilian operators obtaining ODT certificates of purchase.

The new model 45M2 will have a two-speed double reduction axle with a gross vehicle weight of 24,000 lb. This unit, together with the 18M2 and 29M2 models,



Model 60MA heavy duty Federal

will be equipped with a new vacuum control shift mechanism. This type permits the driver, by merely turning a dash lever, to change axle ratios instantly to either high or low range without declutching by momentarily releasing the foot throttle.

Two models, the 18M with full-floating single speed axle and the 18M2 with a two-speed double reduction axle, will be manufactured in the medium class. These units will have a nominal rating of two to three tons each with a gross vehicle weight of 15,000 lb. each. Three units representing the light-heavy field will include the 29M, with full-floating single speed bevel gear axle, the 29M2 with a two-speed double reduction axle and the 29MA equipped with an auxiliary transmission which has an oversize rear axle.

Five models in the heavy duty class will be produced with nominal ratings ranging from three and one-half tons to seven tons, listing gross vehicle weights of 24,000 to 28,000 lb. for single units and gross train weights up to 50,000 lb. capacity. These units will be the model 45M with a full-floating bevel gear axle, the model 45M2 with a two-speed reduction axle, the model 55M built with a single speed double reduction axle and the model 55MA and 60MA units which will be equipped with full-floating double reduction axles and auxiliary transmissions.

One of the new features in all heavy duty Federals, 45M to 60MA inclusive, will be a new and heavier steering gear mechanism with anti-friction knuckle bearings. To be continued as standard equipment will be the vacuum crankcase ventilating system. A combination of oil bath cleaner and oil filter which prevents the ventilating system from sucking dust laden air into the crankcase will also be included on the new models.



GALION

HYDRAULIC HOISTS & BODIES Range in Size and Capacity to Meet Your Requirements

(CAPACITIES FOR 1 1/2 TO 20 TONS)

\$6,432,753,000
*budgeted for postwar
Earthwork Projects*

Contact your GALION distributor for complete information on the hoists and bodies you need to handle your proportion of this postwar construction program.



A SINGLE
CENTRAL
ALL-SIZE HOSE CLAMP
 FITS OVER 100 DIFFERENT HOSE SIZES

SEND FOR

FREE
 SAMPLE

No. 45-5C

• Like the jungle lion, the ALL-SIZE is tops in the field. It has unmatched clamping power; fastest clamping action; plenty of take-up; goes on or off in the least time, without disconnecting the hose line; is easiest to use in hard-to-get-at places; is leak-proof, rust-proof, self-locking; won't strip or loosen.

• Best of all—because a single size ALL-SIZE does fit over a hundred different hose sizes—it offers every advantage to jobber, dealer, fleet owner and mechanic . . . eliminates the need for big clamp inventories, saves time and labor, gives lasting satisfaction every time on every job!

CENTRAL EQUIPMENT CO. 900 S. WABASH AVE.
 CHICAGO 5, ILLINOIS

Gear Pullers
GARAGE TOOLS
 CARBON SCRAPER
 CREEPER CASTERS
 BUSHING REMOVERS
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Cal-Van
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 300 WATER ST. JACKSON, MISS. 39201
 ★ Write for Catalog

Is it *Air* YOU WANT?
 —then write for
FREE
COMPRESSOR
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 Maintenance Check Chart.
CURTIS PNEUMATIC MACHINERY DIVISION
 of Curtis Manufacturing Company
 1970 Kienlen Avenue • St. Louis 20, Missouri

CCJ NEWSCAST

(CONTINUED FROM PAGE 98)

Natural Rubber Stock is Low

The nation's supply of natural rubber will be down to about 65,000 tons at the end of this year, in striking contrast to the 100,000-ton inventory that was regarded as the "disaster level" at the time of the Baruch Committee's report on rubber, James J. Newman, vice-president of the B. F. Goodrich Company, said recently. "Only the fact that we have made such outstanding technical progress that we now can rely on synthetic rubber for 85 per cent of the nation's rubber needs saves us from being actually far below 'disaster level.'"

Advise Lubricant In Mounting GR-S Tubes

The same lubricating procedure recommended for tubes of GR-S (government rubber-styrene) should be used in mounting tubes of butyl synthetic rubber, according to C. R. Mason, service manager of The B. F. Goodrich Co. Tubes of butyl rubber for truck and bus service are now being produced in increasing quantities.

Mason points out that correct mounting procedure calls for use of a lubricating agent, such as a vegetable oil soap solution. This not only simplifies mounting of the tube and wheel assembly, but should assure longer service life of the tube because it will more readily seat itself when lubricated.

New Process Developed For Making Ethyl Chloride

A new process for making ethyl chloride, one of the most important chemicals used in manufacturing Ethyl fluid to produce high octane gasoline powering allied air fleets on the world's battlefronts, has been announced by Ethyl Corp. A \$750,000.00 unit employing this process is now under construction at the company's Baton Rouge, La., plant.

The process yields ethyl chloride by reacting chlorine with waste products from one of the present ethyl chloride units at Baton Rouge. It was developed in view of the "tight" supplies of both alcohol and ethylene, compounds used in producing ethyl chloride, through two present processes.

Protests Freight Rate Increase

A protest against increases in freight rates proposed by New England motor (TURN TO PAGE 160, PLEASE)

Timken Bearings are the first choice of engineers and fleet operators everywhere because of their unusual efficiency and outstanding performance. Be sure the trade-mark "TIMKEN" is on every bearing you buy!



THE TIMKEN ROLLER BEARING COMPANY
 CANTON 6, OHIO

THE RESPONSIBILITY IS YOURS—

To Take Them to Work...

To Deliver the Goods



Without commercial motor transportation, America's industrial wheels would stop turning. All cities and towns require it and it is the sole life-line for 54,453 U. S. Communities. This is a vital job—particularly now in wartime, and we're out to help you in every possible way. Manufacturing genuine Toledo heavy-duty automotive parts, and seeing that you get them when you need them is the part we play in helping keep your trucks and buses in efficient operation. So, let's continue to work together—there can't be failure anywhere along the line these days!

The TOLEDO

STEEL PRODUCTS COMPANY • TOLEDO, OHIO, U. S. A.
SINCE 1906

Makers of Fine Automotive and Aircraft Parts



Skid "chutes" the works



...he doesn't know

GRAFILD
BRAKE LININGS
will stop 'em!

Skid flops to a stop—but who wants pancake landings for his customers? Give 'em GRAFILD for sure-fire braking at the touch of a toe. Get in line—reline with GRAFILD.

WORLD BESTOS CORP.

PATERSON • NEW JERSEY



Check the wire on every job

Wirey Joe

AUTOMOTIVE CABLE

manufactured by
THE CRESCENT COMPANY, Inc.
Pawtucket, Rhode Island

Dart Trucks

**HEAVY DUTY FOR
OFF THE HIGHWAY SERVICE**

—Specially Designed for—
Coal Mining—Iron Ore Mining—Copper
Mining—Pit and Quarry—Logging—Oil
Fields—Etc.
It Costs No More for Trucks Specially
Built to Fit Your Needs. Have Our Engi-
neers Visit and Analyze Your Operation.

DART TRUCK COMPANY
KANSAS CITY, MO.

CCJ NEWSCAST

(CONTINUED FROM PAGE 158)

freight carriers was filed recently with the Interstate Commerce Commission by the Office of Economic Stabilization and the Office of Price Administration. The higher rates of 2½ cents per 100 lb. in less-than-truckload freight rates and one cent per 100 lb. in truckload rates would increase the cost of the war, OPA said, because the Federal Government is the country's largest shipper of freight.

Civilian Tire Tube Production Cut

No manufacturer of tubes for civilian passenger cars and civilian small trucks, sizes 6.00 x 16 and 6.50 x 16, will be allowed to produce these tubes without specific authorization from WPB until July 1, 1945. By this amendment to Rubber Order R-1, the Rubber Bureau estimates that 1,000,000 lb. of carbon black per month will be made available for the production of heavy duty truck and bus tires.

"Color Conditioning" To Improve Industrial Efficiency

A postwar program for scientifically "color conditioning" industrial interiors has been announced by the Du Pont Finishes Division following extensive study of employing functional color to improve employee efficiency, health, comfort and morale.

Described as the science of determining the correct industrial color environment for maximum vision, the system has been developed by Du Pont in collaboration with Faber Birren, leading industrial color authority. Among the benefits of "color conditioning" are listed increased production, improved quality of workmanship and reduced personal injuries.

The "color conditioning" technique is designed to protect employees against eye-strain by reducing glare and eliminating extreme contrasts between light and dark. It recommends restraint in using color, especially distracting, over-stimulating hues, as well as abolishing light-robbing dark areas.

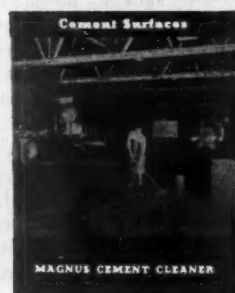
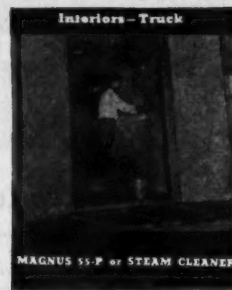
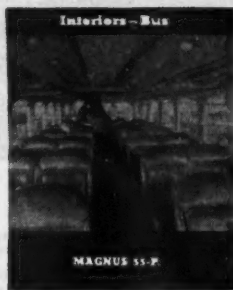
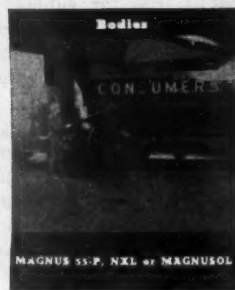
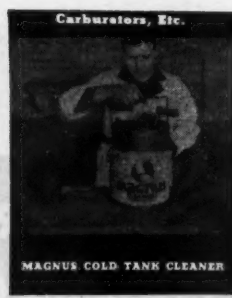
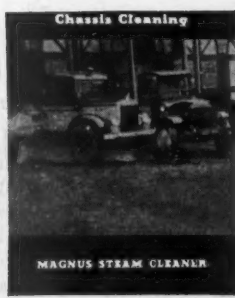
The program is not mere "interior decoration" of plants, but the outcome of long-term research that already has done much toward "putting color to work" for industrial efficiency.

Expansion Planned

The Monroe Equipment Co. has recently purchased a new plant to increase present and peacetime production space by 50 per cent. Monroe will move its tank-seat department and set up new facilities for its shock absorber division in the 58,000-sq. ft. factory of the Stoner-Maurer Co., Monroe, Mich.

Surplus Property Activities Transferred to Dept. of Commerce

Centralization of information on surplus property is expected to emerge from the transfer by order of President Truman on April 18 of the Treasury Procurement Division's surplus property activities to the
(TURN TO PAGE 162, PLEASE)



For Every Step in Your PM Program

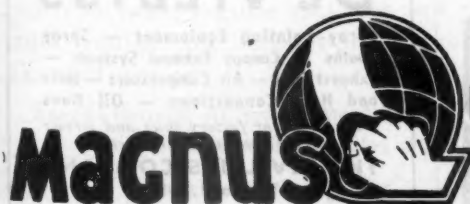
Better, Faster Cleaning with the Right Magnus Cleaner

Any preventive maintenance program worth its salt depends completely on the thoroughness, speed and simplicity of the cleaning jobs which precede inspection, adjustment or repair.

You can use ordinary cleaners, if you don't mind excessive labor costs, ineffective cleaning action and considerably higher bills for materials.

But when you use the Magnus material developed specifically for a particular cleaning job or jobs, you'll not only carry out the cleaning operation faster, at less labor cost and with minimum consumption of cleaner, but you'll get greatly improved cleaning results that will be reflected in the quality and thoroughness of your Preventive Maintenance Program.

Pick any one or two cleaning jobs where you'd like better, more economical results and ask us to recommend the Magnus Cleaner or Cleaners developed for this work. You can try them for a month on our 30-day trial basis and see for yourself the improved results they give.



MAGNUS CHEMICAL CO. 38 SOUTH AVENUE, GARWOOD, N. J.

Fleet Cleaning Materials



SURE CURE FOR CRACKED BLOCKS

THIS 3 EASY STEP
MOGULOID WAY

One Shop Reports— "We have repaired over 1200 cylinder blocks since 1943 with excellent results. Our rejects have been negligible."—H. J. P., Cincinnati 2, Ohio

MOGULOID TEST HEADS

Every shop doing motor rebuilding work should be equipped with these time and money-saving units. When applied to the block the extent of the crack and leaks may be quickly located. With Moguloid or other mechanical methods of block repair it will pay you to equip your shop with several of these test heads.

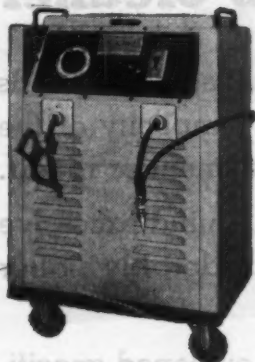
Available for all makes of auto, bus and truck motors.

Also available with pressure gauge and air connector.



MOGULOID ARC BONDER

Sensational new unit which fills the crack in the block with deposited metal. Compressed air is used in connection with the Moguloid Arc Bonder to keep the work cool—eliminates the danger of high temperature. Easy to use air-cooled holder. Streamlined cabinet with concealed tool storage compartment. Unit complete on casters, 220 volt, 60 cycle single phase. Other voltage models available.



Specify current required when inquiring.

MOGULOID SOLUTION



Moguloid—a pure colloidal is unsurpassed for closing small pinhole leaks and in making permanent block repairs of the cold area. Operators are finding it good protection to equip buses and trucks with a bottle of Moguloid solution in order to make emergency repairs on the road. Saves time and prevents any costly damage which might otherwise occur.

Moguloid solution is positive in action, economical and easily applied. Also excellent for eliminating leaks in water pumps.

WRITE FOR BULLETIN NO. 22 TODAY

MOGULOID COMPANY OF AMERICA

DIVISION OF METALLIZING COMPANY OF AMERICA

Dept. JB, 1503 W. Van Buren Street Chicago 7, Illinois

CCJ NEWSCAST

(CONTINUED FROM PAGE 160)

Department of Commerce under Secretary Henry A. Wallace. The Department of Commerce having an agency in each of the 48 states was accepted as the logical source to handle such information. Recommendation to that effect was made some time ago by the Mead Senate Committee and has the support of the Surplus Property Board. The board designates disposal agencies and the properties they handle and is also charged with establishing sales policies.

By centralizing information in the hands of the Department of Commerce prospective buyers of surplus goods no longer would have call upon the different scattered sources in an effort to learn which one has charge of the product or products he wants to purchase. The Department of Commerce agency, no matter where located, would have the information covering all products, regardless of their location or the location of the disposal agency which sells the surplus material, both consumers' and durable goods.

There are eight surplus property disposal agencies. They are: RFC, WFA, Maritime Commission, NHA, FWA, Department of the Interior (grazing and mineral lands), Department of Agriculture (forest lands) and the Department of Commerce.

The transfer of the Procurement Division's surplus property activities, which covered a long list of consumers' goods, such as trucks, automobiles and parts, hardware, etc., was first proposed to the late President Roosevelt by Secretary of the Treasury Morgenthau last November. Secretary Morgenthau considered that these activities were a burden to the Treasury Department. The transfer will not affect personnel, except to shift it from the Procurement Division to the Department of Commerce. The transfer covers about 400 employees in Washington and 500 employees over the country.

More Repair Equipment Due

Increased production of automotive maintenance equipment may be on the way. A proposed amendment to Limitation Order L-270 has been approved by the Automotive Equipment Industry Advisory Committee, according to WPB. It is hoped that the new procedure will make it easier for the industry to meet authorized programs.

(TURN TO PAGE 164, PLEASE)

CLEANER OIL

MEANS

- Longer Engine Life
- Lower Oil Expense

Write for Bulletin No. 837
MICHIANA PRODUCTS CORP.
Michigan City, Indiana

MICHIANA
OIL FILTERS

BLUE CROWN HUSKY

Controlled Heat Zone
SPARK PLUGS

"Built to 'take it'
when the going
is toughest"



BLUE CROWN SPARK PLUG CO.
Division of MOTOMASTER PRODUCTS CORP.
1800 WINNEMAC AVE. CHICAGO 43, U. S. A.
Export Distribution: Borg-Warner International Corp. Chicago



DE VILBISS

Spray-Painting Equipment — Spray Booths — Canopy Exhaust Systems — Exhaust Fans — Air Compressors — Hose and Hose Connections — Oil Guns

Distributors or factory sales and service representatives everywhere

THE DEVILBISS COMPANY
Toledo 1, Ohio



HOLD YOUR POWER Longer

Plugs of the correct Heat Range for today's fuels and operating conditions help substantially to maintain engine power. So, plugs of the correct Heat Range that will *last longer* are highly desirable for the obvious reason that they will *maintain that power longer*.

WIDER HEAT RANGE PER PLUG

Because they have a wider Heat Range *per plug*, the AC Spark Plugs of today have definitely longer life,—notably in the electrodes. This also means less fouling from soot and carbon, less fouling from treated fuels, less fouling from engine wear. All this assures utmost reliability.

This quality is engineered into AC Spark Plugs. When you protect it with regular cleaning and regapping every 3,000 miles, you get the absolute maximum in spark plug maintenance of power.

Benefit through AC's equipment "know how"—2 out of every 4 commercial vehicles are AC equipped

SPEED FINAL VICTORY — BUY WAR BONDS

SPARK PLUGS

SEND FOR THE AC HEAT RANGE CHART AND AC SHOP MANUALS

Field Service Department, AC Spark Plug Division, G. M. Corporation
910 Mott Foundation Building, Flint 3, Michigan

Gentlemen: Please send me at once, no charge, the AC Shop
Manuals checked: **CCJ-5**

- | | |
|--|--|
| <input type="checkbox"/> HOW TO SERVICE SPARK PLUGS | <input type="checkbox"/> How to Service Oil Filters |
| <input type="checkbox"/> How to Service Spark Plug Cleaner | <input type="checkbox"/> How to Service Fuel Pumps |
| <input type="checkbox"/> How to Service Air Cleaners | <input type="checkbox"/> How to Service Speedometers |
| <input type="checkbox"/> How to Service Ammeters and other Instruments | <input type="checkbox"/> Heat Range Chart (A-681) |

NAME _____

FIRM _____

STREET ADDRESS _____

CITY _____

STATE _____

CCJ NEWSCAST

(CONTINUED FROM PAGE 162)

Feather Ride Announces New Type Axle Unit

A new corporation, which will become a new world-wide manufacturing and selling factor in the truck-trailer industry, to be known as Feather Ride, Inc., has been formed with general offices in the Terminal Sales Building, Portland, Ore. With sales representatives now being sought in 25 metropolitan areas throughout the United States, the company claims to offer many weight-saving components for trailer operators, manufacturers, conversion shops

and automotive parts distributors.

The name Feather Ride was taken from the Feather Ride Dual Axle Trailer Suspension which was recently announced on the West Coast. Other Feather Ride equipment includes a front axle dolly for full trailers and a revolutionary new axle and brake assembly that is attracting the industry's attention because of its demountable spindle.

Organizers of Feather Ride, Inc., are nationally known figures in the trailer business. They are Henry Ketel, general manager of the Holland Hitch Co., Holland, Mich.; R. W. Pointer, owner-manager of the Pointer-Willamette Co., Portland, Ore.; and Col. H. A. Geerds,

secretary-treasurer of Holland. Operating heads of the firm will include: Mr. Pointer, who will serve as president and general manager; H. E. Shillander, assistant to the general manager; and Conny Herman, national sales manager.



Principals of the new Feather Ride, Inc. organization recently formed. Left to right: Henry Ketel and Col. H. A. Geerds of the Holland Hitch Co., Holland, Mich.; and Robert W. Pointer, owner of Pointer-Willamette Co., West Coast manufacturing firm, who will be president and general manager

BIG JOBS



and little jobs
GO HAND IN HAND
WITH
MARQUETTE
REGISTERED U.S. PAT. OFFICE
A.C. ARC WELDERS

All the power you need for welding heavy truck and trailer frames . . . and perfect arc control for welding light body and fender metal. With Marquette's matchless welding power you can really "pour it on" . . . and without troublesome "magnetic blow" to hamper production.

Cast iron, malleable castings, aluminum, in fact, every size and type of metal, no matter what the job, Marquette A. C. Arc Welders will turn out strong, good looking welds faster and at less cost. These features make it the ideal welder for quick, dependable repairs in your shop.

**10 MODELS, 125 to 400 Amps.
COMPLETELY EQUIPPED**

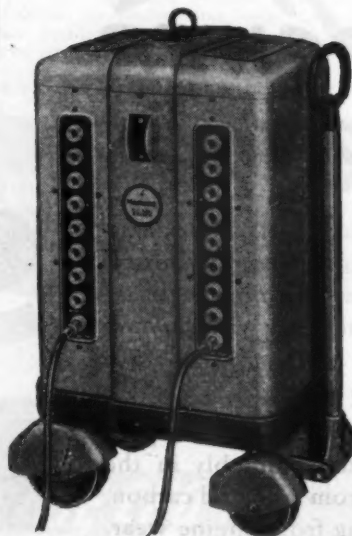
Send for free 24 page illustrated booklet

BUY THE BEST . . . BUY MARQUETTE

MARQUETTE MFG. CO., INC.
Minneapolis 14, Minnesota

MARQUETTE
REGISTERED U.S. PAT. OFFICE

WELDING
Equipment
ELECTRODES AND SUPPLIES



Serving CUSTOMER No. 1

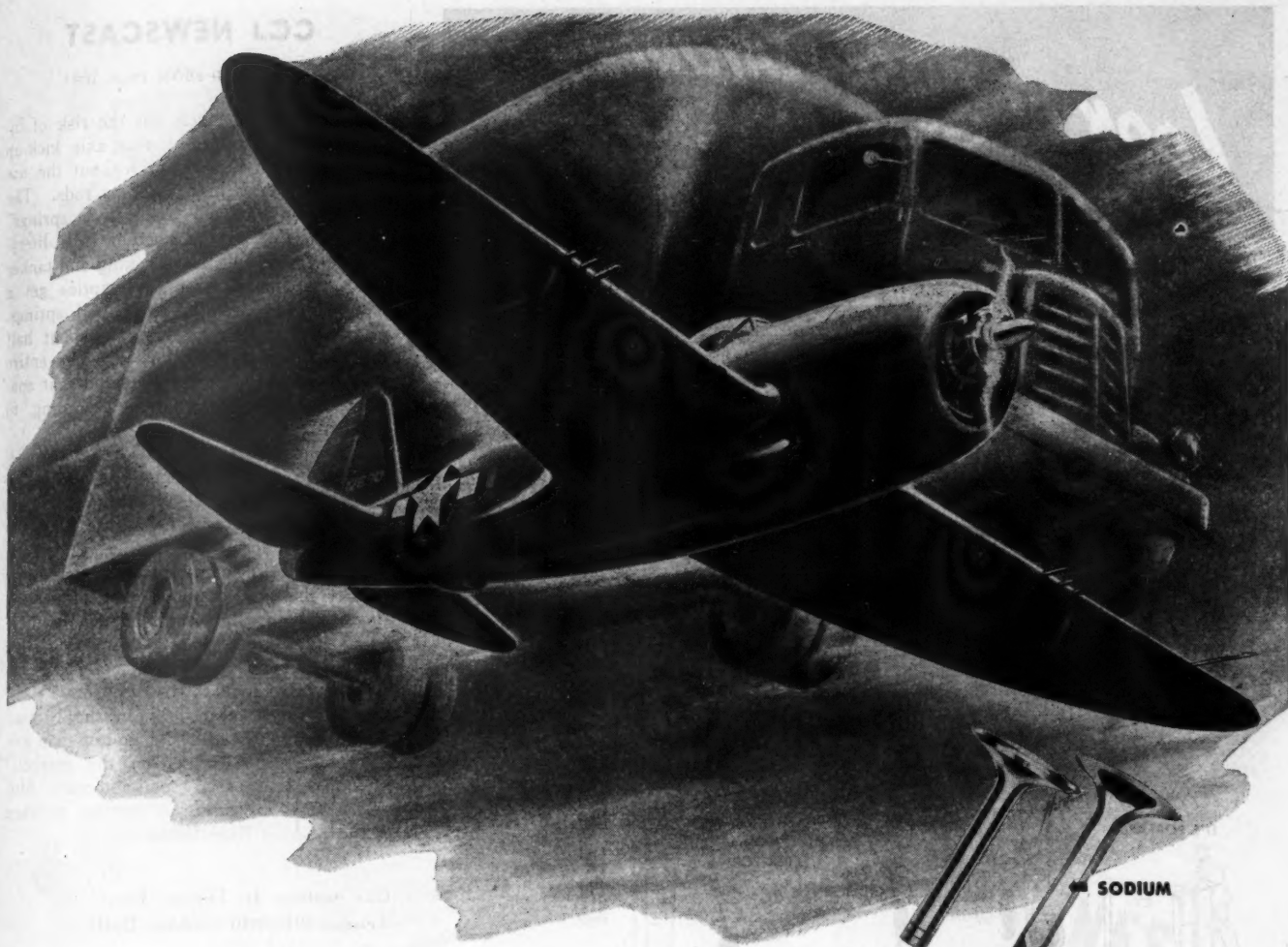
Here at Fulton we're in the war . . . in it to the limit of our ability and resources. Our manufacturing facilities are devoted whole-heartedly to the task of supporting the men on the firing line . . . until America's fighting leaders order us to quit.

So until Victory is won, Fulton quality-built war necessities will continue to have right-of-way over Fulton Automotive Equipment for the Home Front.

THE FULTON COMPANY

1912 So. 82nd St., Milwaukee 14, Wisconsin

Manufacturers of Electric Sleet-Frost Shields, Defrosting and Ventilating Fans, Trailer Couplings, Tow-Bars, Steering Wheel Spinner Knobs and many other items.



We picked this out of the air

AT the end of the First World War, with top flying speed around 100 miles per hour, the life of an aircraft valve was 50 flying hours.

Now, Thompson aircraft valves often operate 5,000 flying hours — 1,000,000 air miles — before replacement is necessary.

Behind this valve evolution is a story of unremitting search by our engineers, metallurgists, and factory men for new steels, new coolant mediums, and improve-

ments in valve design and production methods.

Today, every type of American war plane and many other military engines are equipped with Thompson Sodium-Cooled valves.

Soon after the war, Thompson will offer an adaptation of this aircraft Sodium-Cooled valve for heavy-duty automotive service.

It is just one of many things to come from Thompson which will speed postwar automotive progress.



The New Sodium-Cooled Valve For Trucks and Buses—A preview of the postwar Thompson Sodium-Cooled Valve for heavy-duty service in trucks, buses, tractors, marine and industrial engines. The cut-away section shows the hollow stem which is 60% filled with sodium.



Thompson Sodium-Filled Valve for Aircraft Engines—Cross-sectional view at the right shows how Thompson aircraft exhaust valves are filled about 60% with metallic sodium. The sodium liquefies under engine heat, splashes the inside surfaces and rapidly carries heat away from the red-hot valve head. Forged from finest steel and super-finished or nitrided, this valve is built with watch-like precision.

*Keep Close
to Your*

Thompson



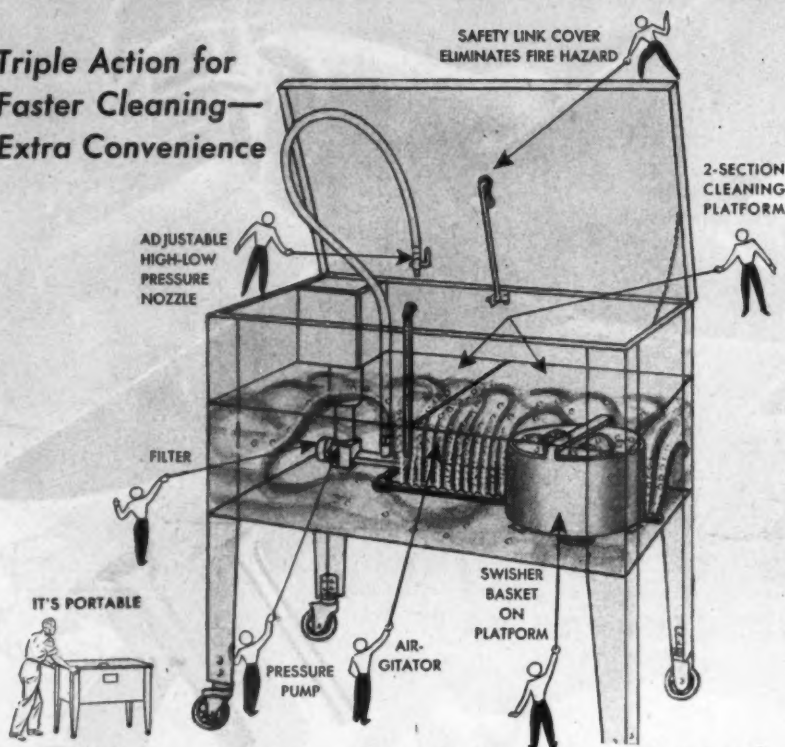
Products

Globber

CLEVELAND • DETROIT • LOS ANGELES

LOOK AT THESE FEATURES! OF THE Gray-Mills Agitor PARTS CLEANING SYSTEM

**Triple Action for
Faster Cleaning—
Extra Convenience**



Here is the parts washer for you. It's portable, easy to use, efficient, and it provides 3 ways for removing grease, grime and oil. 1. Soak cleaning with Air-gitator action. Bottom rack accessory makes possible use of entire tank for

cleaning large pieces. 2. Swisher cleaning of small parts in bulk. 3. Pressure pump cleaning of larger parts and hard-to-clean cavities. Check the features in the picture above. Send for literature on this better, cleaning system.

GRAY-MILLS

GRAY-MILLS CO.
1942 RIDGE AVENUE EVANSTON, ILLINOIS

PARTS CLEANING SYSTEM
Agitene Cleaning Solvents

**KEEP YOUR
VEHICLES MOVING
ECONOMICALLY**
with
**HALL VALVE SERVICING
EQUIPMENT**
Ask Your Jobber or write
THE HALL MFG. CO.
TOLEDO, OHIO

**BONNEY
TOOLS**
Bonney Forge & Tool Works
Allentown, Pa.

CCJ NEWSCAST

(CONTINUED FROM PAGE 164)

and one which cancels out the risk of lubrication failures. The rear axle kick-up problem is answered and without the use of any torque arms or radius rods. The suspension features "underload springs" and according to the Feather Ride literature, the causes of body racking and tanker leaks were eliminated as empties get a "feather ride" on the underload springs. The whole spring assembly is about half the size of a man's suit box. The entire assembly is so simply engineered that considerable weight is saved, according to Feather Ride engineers.

The new Feather Ride Axle with demountable spindle is something new to the industry. Tire, wheel or brake servicing can be done at operator's leisure while the trailer can continue in service. The brake is a hydraulic-actuated wedge type that applies pressure on both ends of floating shoes. The shoes are interchangeable, there being no "rights or lefts." Feather Ride claims that an unusually small parts inventory will adequately serve fleets.

"The front wheel dolly in the Feather Ride line is 200 to 400 lb. lighter than any full trailer fifth wheel on the market," says Mr. Pointer. A semi-automatic fifth wheel for semi-trailers is another member of the Feather Ride family.

Gas Station In France Feeds Armies 900,000 Gallons Daily

One of the biggest gas stations in the world belongs to the U. S. Army in France, and services the armies of Generals Hodges, Patton, Simpson, and Patch.

A Quartermaster POL (petroleum, oil, lubricants) depot feeds these armies a daily average of 900,000 gals. of gasoline, and correspondingly huge amounts of oil and grease.

Gasoline from the United States arrives at a Channel port. From the port it is pumped through overland pipelines to this huge depot, where it is dumped in cans, piled neatly, camouflaged for protection from enemy observation, and dispersed for protection against bombardment.

Another smaller pipeline circles the depot. At any point on this line convoys of tank trucks can stop, take their load, and speed to the front. Other trucks load gasoline contained in jerricans, and five trains puff out of the depot on a battlefield gasoline shuttle, on a 24-hour schedule.

(TURN TO PAGE 168, PLEASE)



Bayard L. Lovelace, World War II veteran takes delivery of his Fruehauf Trailer and GMC truck made possible by the "G.I. Bill of Rights"

CCJ NEWSCAST

(CONTINUED FROM PAGE 166)

Special Off-Road Trucks Climb 48 Per Cent Grade

Oil is where you find it, but seldom is it found along well-paved highways. Truck equipment has to be developed to handle the specialized equipment and supplies used in the modern geophysical method of locating new oil formations. Each territory has its own problems, but the almost universal requirement of high tractive ability is encountered from Louisiana to Arabia.

The Fabco Dual Drive Ford truck is one of the many interesting units developed for this cross-country transportation where



MANUALS FERRET-OUT MOTOR FAILINGS...

Today, with the mechanic shortage a menace to veteran trucks and buses, treacherous little motor troubles are out to lick this vital transportation. These hard-to-catch stumbling blocks must be brought to light—and that's the job Kem Komet's Trouble Shooting Manuals do for you.

In line with the same *extra-service* policy, Kem Fuel Pumps and Kem Komet SLI Parts help avoid costly hold-ups because they're pre-fitted on master gauges that duplicate original equipment. Heavy duty built, to give *extra margins of strength* in wiring, welding, machining, insulation and oversizes, Kem Fuel Pumps and Kem Komet's SLI Parts assure waste-free smoothness of operation.

Write today, for the Kem Trouble Shooting Manuals—covering ignition and other motor troubles. The comprehensive, amply illustrated set of 10 manuals are written by an engineering expert. Entire set costs only 25¢. Ask too, for the Kem Catalog and the name of your nearest Kem Komet jobber.

KEM

KEM MANUFACTURING CO., INC. • 601 W. 26th St., New York 1, N. Y.

KOMET

Prefitted

SILVER ANNIVERSARY

KEM celebrates a quarter century of service to the industry

ordinary trucks would be helpless. This is probably the best tired vehicle of its size ever built and is one of a fleet of such units in the service of a major mid-continent oil company.

This particular unit is a water truck used to haul water to the core drilling rigs which are mounted on similar units. The water truck has a gross vehicle weight of 19,000 lb. and is mounted on six 14.00 x 24 low pressure tires using wheels with drop center rims. A heavy duty steering gear and a special front axle are used to handle the big front tires.

The performance of these units is reported to be amazing, with the ability to go practically anywhere. With a full load they have negotiated grades up to 48 per cent with ease. It is stated that its ability to climb is governed by tread design only. They will cross ditches 4 ft. deep, 12 ft. wide, with sides sloping 87 per cent, and are used to tow other dual tired vehicles through soft, loose ground that stalled other trucks.

(TURN TO PAGE 170, PLEASE)

SPEEDIER SERVICING



Jones Portable Tachometers make possible quicker check-ups with greater accuracy.

Used by the world's largest operators of commercial vehicles for checking engine speeds from crankshaft, generators, or other exposed rotating parts; trouble shooting without necessity of road tests. A wide variety of ranges—light weight and heavy duty; guaranteed calibration. Complete with 4" extension rod, convex and concave rubber tips, and steel tip, 12" cfr. peripheral disc, and carrying case . . . \$80 FOB Stamford, Conn.

Users include Seaboard Freight Lines, Standard Oil Co. of La., N. Y., N. J., U. S. Army Air Forces, U. S. Navy, Socony Vacuum Oil Co., General Motors Truck and Coach, American Fire Apparatus, Autocar Co., Atlantic Refining Co., International Harvester Trucks, Mack Trucks.

JONES MOTROLA

438 Fairfield Ave.

Stamford, Conn.

7,000,000 Miles of Stop-and-Go Driving —and VALVOLINE stands the test!



"We have been using Valvoline Motor Oils for the last fourteen years, and they have always given us entire satisfaction."

THE RUBEL BAKING CO.

Bert W. Rubel

Bert W. Rubel,
Vice-President

THE RUBEL BAKING CO.
Cincinnati, Ohio

Rubel trucks travel more than half a million miles a year—and bakery trucks, with their innumerable stops and starts, are subjected to extraordinary wear.

If you have a "tough" fleet lubrication

problem, Valvoline Motor Oils and Lubricants and Valvoline Fleet Laboratory Service can save you money and extend the useful life of your equipment. Write your nearest Valvoline office today!

COSTS MORE TO MAKE—COSTS LESS TO USE

VALVOLINE

The 1st Pennsylvania Oil

VALVOLINE OIL COMPANY

580 EAST FIFTH STREET CINCINNATI 2, OHIO

New York-Chicago-Atlanta-Los Angeles-Vancouver

REFINERY IN PENNSYLVANIA

CLEAN YOUR TRUCKS THE MOBO WAY



MOBO AUTO WASH is the quick, easy way to clean truck, bus and passenger car. No streaks, no wiping—can be used with hot or cold water. Non-alkaline Auto Wash cleans all painted surfaces, nickel, chromium and glass.



MOBO DEGREASING FLUID means sure death to grease, oil and grime. Equally satisfactory for light or heavy duty jobs, it leaves no greasy film and is harmless to trucks and hands. Use it also on your chassis, parts, floors and grease pits.

Write for detailed information on these and other Mobo products.

JOHN T. STANLEY CO., Inc., 642 West 30th St., New York, N. Y.



I'M AN OLD TIMER
AND KNOW GOOD
PARTS — SO I USE
Wohlert PRODUCTS
—they fit and last.

Wohlert
CORPORATION
LANSING MICHIGAN
Makers of Engineered Parts

AUTOPULSE ELECTRIC FUEL PUMP

- Uninterrupted Schedules
- Instant Starting
- Greater Economy
- No Vapor Lock
- Added Protection

AUTOPULSE CORP. DETROIT



STANDARD & SPECIAL TRUCKS ANY SIZE OR TYPE



AVAILABLE TRUCK COMPANY
2501 Elston Ave., Chicago 47, Illinois

CCJ NEWSCAST

(CONTINUED FROM PAGE 168)

The Ford truck is equipped with a special Fabco Dual Drive built by the F.A.B. Mfg. Co., Oakland, Cal., and installed by the Pallady Welding and Equipment Co., Oklahoma City.

The importance of securing minimum wheelbase for maneuverability and still have a split shaft power takeoff to deliver full engine power to operate the drill rigs led to the development of the Fabco Power Tower Takeoffs which are available in a number of ratios and either "engine" or "opposite engine" rotation.

Prins Resigns ODT Post

Charles E. V. Prins has resigned as ODT's director of information. Charles V. Warren, assistant director, becomes acting director. Mr. Warren was formerly with the Public Roads Administration and the Federal Works Agency as Chief of Press. His home is in Webster, Iowa.

Budd Wheel Expands

WPB has authorized construction by Budd Wheel Co. of a \$2,350,000 addition to its Detroit plant. The building will be used to produce divided rim type wheel, which the armed forces are adopting for use on trucks, enabling them to negotiate chuck holes and road obstacles with less danger of tire punctures or blowouts. Construction cost will be \$815,000.

Schamberger To Handle Federals

Appointment of Chamberger Motor Co., Federal Truck distributors for Cedar Rapids, Iowa, and six surrounding counties, has just been announced by Carl Loud, sales manager of the Federal Motor Truck Co.

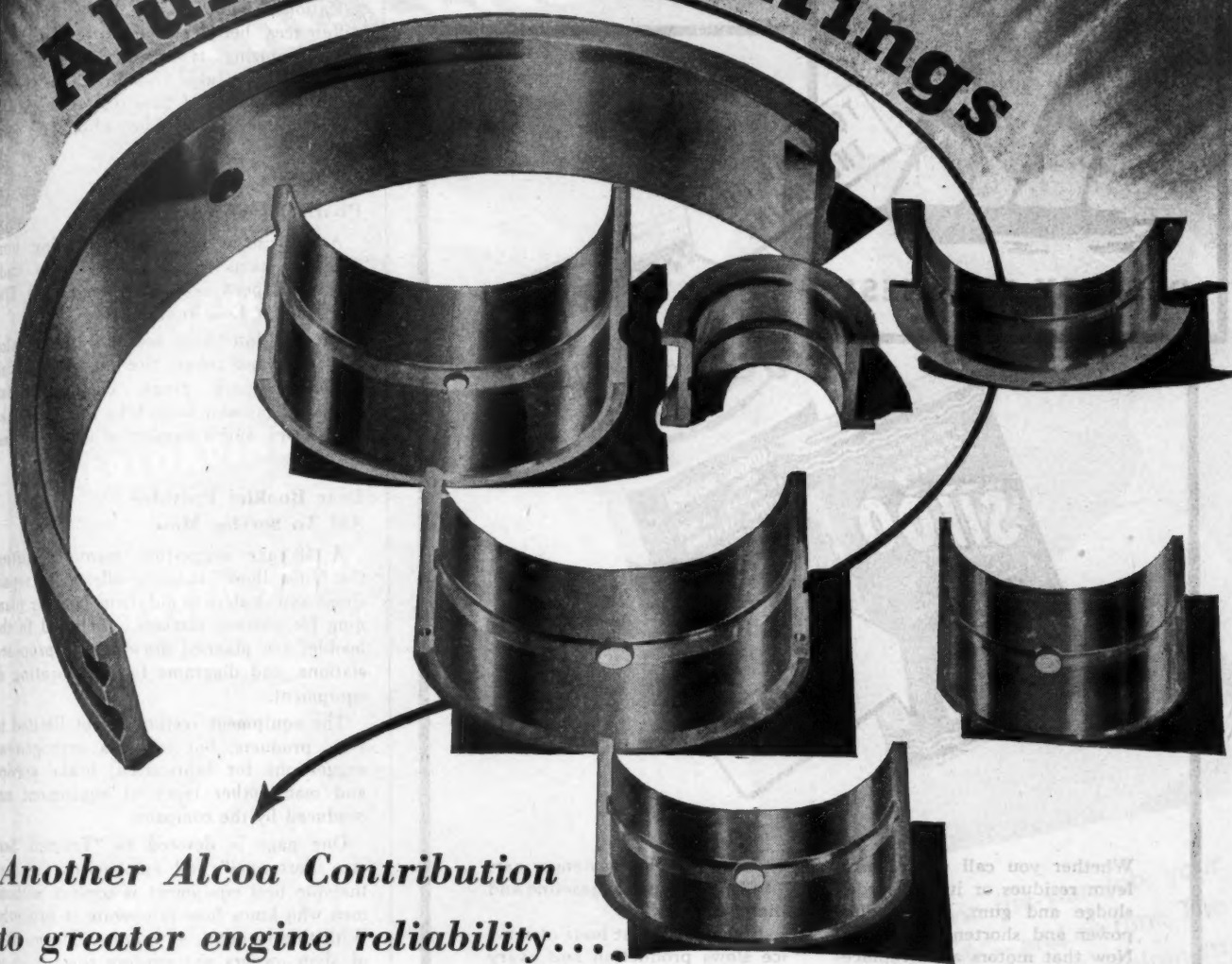
Clawson & Bals Moves Offices

Clawson & Bals, Inc., Chicago engine bearing manufacturer, has recently completed moving its general offices and service department to 2508 S. Michigan Ave., Chicago. The space vacated in the factory at 4701 W. Lake St. has already been put to use for expanded production facilities.

Goodrich Offers Booklet

A new booklet on the natural and synthetic rubber adhesives which it manufactures has been published by The B. F. Goodrich Co., Akron, Ohio. Directions for the application of natural and synthetic rubber cements are included. One of the most important parts of the new publication is the discussion on how to choose (TURN TO PAGE 172, PLEASE)

Aluminum Bearings



Another Alcoa Contribution to greater engine reliability....

You can safely operate Alcoa Aluminum bearings at higher loads. This is a proved fact—proved repeatedly under scientific control on the test floor and under the varied circumstances of severe routine service.

These bearings are bearing metal clear through. Alcoa bearing alloys offer excellent bearing characteristics. Their high heat

conductivity lowers surface temperatures.

Don't be surprised when an engine builder gives you this evidence of a big step forward—"We're using Alcoa Aluminum bearings for better performance and greater reliability." A number of manufacturers have standardized on them for their heavy-duty work. ALUMINUM COMPANY OF AMERICA, 2139 Gulf Bldg., Pittsburgh 19, Pa.

ALCOA ALUMINUM



SLUDGE and GUM

DESTROY ENGINES!

TO CLEAN OUT THE ENGINE

TO KEEP IT CLEAN

Whether you call them petroleum residues or just everyday sludge and gum, they reduce power and shorten engine life. Now that motors are irreplaceable, more and more thousands of owners are protecting theirs with **LOOSITE** and **SILOO**.

The **LOOSITE-SILOO** treatment is speedy, safe, sure and economical. It has been tested and proven through fifteen years of service

on buses, trucks, passenger cars—in fact all types of gasoline and diesel engines.

Since every lost hour of service slows production and every extra hour speeds it up, it is vital that your motors be saved from their two worst enemies, sludge and gum. Write for full information.

If you heat with oil—write for information on **SILOO FUEL OIL TANK SOLVENT**.

PETROLEUM SOLVENTS CORP., 331 Madison Avenue, New York 17, N. Y.

CCJ NEWSCAST

(CONTINUED FROM PAGE 170)

the right kind of cement for various applications. The booklet also outlines the differences between the vulcanizing and non-vulcanizing types of rubber cement, and contains a table giving data on cement weights, colors, and base materials used.

Free copies may be obtained upon request.

Pharis Issues Catalog

A new accessory catalog, listing hundreds of items carrying the Pharis trade mark, has been issued by the Pharis Tire and Rubber Co., Newark, Ohio.

Divided into nine sections, the catalog lists tires and tubes, tire repair material, batteries, spark plugs, chemicals, fan belts and radiator hose, bike tires and bike accessories, and a number of special items.

Bear Booklet Provides Aid To Service Men

A 48-page suggestion manual entitled the "Idea Book" is being offered to repair shops and dealers to aid them in their planning for postwar markets. Included in the booklet are planned drawings of proposed stations, and diagrams for the locating of equipment.

The equipment section is not limited to Bear products, but includes arrangement suggestions for lubrication, brake service and many other types of equipment not produced by the company.

One page is devoted to "Trained Service Personnel" and emphasizes the fact that the best equipment is useless without men who know how to operate it properly. With this in mind, an increasingly number of shop owners are sending their men to school, the booklet states.

The booklet will prove an aid in providing service men with starter ideas, ideas that they may adapt to their needs—ideas that may start them to thinking of better ones.

The "Idea Book" is available to automotive service men without charge. A copy may be obtained by writing Bear Mfg. Co., Rock Island, Ill.

(TURN TO PAGE 174, PLEASE)

KINNEAR ROLLING DOORS

For truck bodies as well as buildings. Rugged, dependable. Steel slat curtain coils up quickly, out of the way. Built any size. Motor operation, if desired. Write for details.

The Kinnear Mfg. Co.
2100-20 Fields Ave.
Columbus 16, Ohio

WHEN THE LIGHTS GO ON AGAIN!

MOHAWK

QUALITY

will be Remembered

THE MOHAWK RUBBER CO. AKRON, O.

Where Secure Seals Are Vital

VICTOR

**GASKETS, OIL SEALS
GREASE RETAINERS**

The LEADER must LEAD

TIGHTER SCHEDULES

OVERLOADING

INCREASED STOPS

For today's vital win-the-war job, your trucks must "get through"—and on time. The job is tougher and calls for tougher equipment—including brake lining. ★ And again Raybestos leads—by providing heavy duty brake lining sets which will stop a truck carrying 4 times its rated load capacity. ★ These sets come drilled and countersunk for most trucks.

THE RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.

Raybestos

AMERICA'S BIGGEST SELLING BRAKE LINING

BUY AN EXTRA BOND

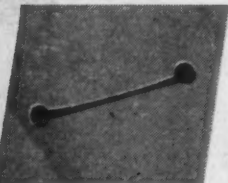
Brake Linings, Clutch Facings, Fan Belts, Hose — For Cars, Trucks, Buses, Tractors — On the War and Civilian Fronts



WHAT IT TAKES TO MAKE DEPENDABLE REPAIRS IN Synthetic RUBBER TUBES



1 Buff thoroughly and carefully. Avoid deep scratches.



2 "Buttonhole" and trim out the injury. Clean thoroughly.



3 Apply and vulcanize Dillelectric patch and filler.

Ordinary repairs are usually inadequate for synthetic rubber tubes. The lower tear resistance of synthetic rubber requires careful preparation of an injury and proper vulcanized reinforcement. Otherwise, the injury is likely to tear farther and spread beyond the repair as the tube stretches and flexes in service.

You can be sure of dependable safety with Dillelectric repairs. For this is the method that completely fills, reinforces and binds the injury securely with permanent vulcanization. The simplicity and convenience of this handy method enables anyone to do a guaranteed repair job in a few minutes. Thousands of fleet owners know by experience that Dillelectric is the handiest and best way to repair both synthetic and natural rubber tubes. Write, today, for full information.

THE DILL MANUFACTURING CO.
700 East 82nd St. • Cleveland 8, Ohio

INSTRUCTION FOLDER
Free ON REQUEST

This free folder pictures and describes the proper preparation and vulcanization of synthetic tube injuries.

DILLELECTRIC
REG. U. S. PAT. OFF.
Electrically **VULCANIZED**
TUBE REPAIRS



**KEY TO SAFETY THROUGH
THE ASF Safety 5TH WHEEL**



AMERICAN STEEL FOUNDRIES
Automotive Division, 400 N. Michigan (Chicago)

ARMSTRONG

Specialists in Quality
Tires Since 1912

TIRES

CCJ NEWSCAST

(CONTINUED FROM PAGE 172)

D. O. Thomas to Head B-W

D. O. Thomas, president of the Bendix-Westinghouse Automotive Air Brake Co., has relinquished his duties as vice-president of Bendix Aviation Corp. to devote his full time to the affairs of the air brake company at Elyria, Ohio, as its chief executive officer. R. L. Morrison will continue as vice-president and general manager of the company.

Mack Sales a Briggs Distributor

The Briggs Clarifier Co., Washington, D. C., manufacturer of industrial, marine and automotive oil filtration equipment has just announced the appointment of Mack Sales, 425 East Platt St., Tampa, as distributor for the state of Florida.

Fruehauf Opens Tulsa Branch

The Fruehauf Trailer Co. has opened a new branch at Tulsa, Okla. In charge of the branch is Carl Shipley, formerly resident salesman in the Tulsa area. Assisting Shipley on sales work will be Pete Graber. In charge of service is R. W. Haskins.

Navy Plane Tires Salvaged

Navy airplane tires of certain sizes no longer fit for safe use on aircraft are being recapped for use on Naval automotive vehicles. This conversion may ultimately reduce Navy tire requirements by about 5000 a month.

1945 Federals Have New Steering

One of the 1945 features in all heavy duty Federal models, 45M to 60 MA inclusive, will be the incorporation of a new and heavier steering gear mechanism with anti-friction knuckle bearings, which will assure easier steering with heavy loads.

A. Schrader's Son Begins Second Century of Service

This year, A. Schrader's Son, manufacturer of pneumatic valves for the rubber, automotive and aviation industries, begins its second century of service. One hundred years ago, young August Schrader, a skilled mechanic, set up a little shop at 115 John St., Manhattan, as a "turner and finisher of brass." Those were days of rapid growth and innovations.

An underwater race between divers, off the Battery in lower Manhattan in the 1840's, was of considerable interest to August Schrader from the standpoint of the equipment used. He became convinced that he could improve the design and manufacture of diving helmets. His "helms" were a success, and it was not long before the young mechanic turned his attention to the manufacture of air pumps. As a result, he was honored with a diploma at the Industrial Fair of 1856 for an "air pump attached to diver's dress, well manufactured and powerful." From this time on, the Schrader name was increasingly identified with diving apparatus; with ap-

(TURN TO PAGE 176, PLEASE)



POWER PROVER

Glendale Farms, Inc., operates
a fleet of 51 Divco Twins in
Newark, N. J.

Helps Save Gasolene for This FLEET!

"Yes, even Pug-Noses need proving," says George Sobeck, Garage Foreman for the Glendale Farms, Inc. "For the past six years, I've used the Cities Service POWER PROVER to check engine efficiency. It's precise. It's accurate. It tells me just when the engine is wasting fuel. In most cases, I save at least 10%-20% in gasolene consumption... And on 51 trucks, that's plenty, believe me."



Step No. 1: George Sobeck, Garage Foreman of Glendale Farms, Inc., inserts hose of the Cities Service POWER PROVER in exhaust pipe of idling engine.



Step No. 2: POWER PROVER quickly registers 40% gasolene waste. George Sobeck adjusts carburetor to determine if this is the cause of engine inefficiency.



Step No. 3: After proper adjustments are made, the POWER PROVER shows a 15% reduction in gasolene consumption with better engine operation.

IN these days of labor and gasolene shortage, the Cities Service POWER PROVER will help you save both time and fuel. It's easy to use... accurate... cuts down tune-up time... and eliminates guesswork. No fumbling around with carburetor or ignition. It quickly tells you when you hit the *real* cause of engine inefficiency.

You may benefit by having your fleet tested by the famous POWER PROVER.



**Mail this coupon
today for a FREE
Demonstration
Test on Your Fleet**

This offer is limited to principal cities in Cities Service marketing territories East of the Rockies.

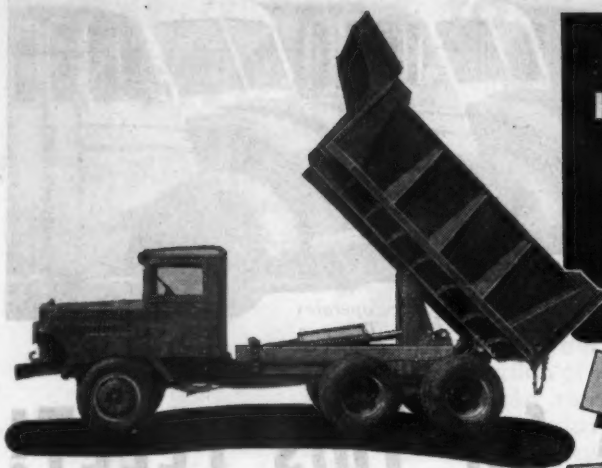
Cities Service Oil Company
Room 416
70 Pine Street, New York 5, N. Y.

Gentlemen: I am interested in your offer of a FREE Demonstration Test of the Cities Service Power Prover on my fleet... without obligation to me.

Name.....

Address.....

No. of Vehicles in Fleet.....



ONLY
HERCULES
DELIVERS
ALL THESE
features

Bigger payloads unloaded faster—less maintenance—greater profits—these are the advantages of Hercules construction . . . advantages that make Hercules dump bodies worth waiting for!

While you're waiting, your Hercules distributor can be of service, keeping your present equipment in top working order. He has the mechanical facilities, the replacement parts and the trained personnel needed to maintain your overworked equipment.



CENTER-LIFT HOIST

REVERSIBLE
TAILGATE HARDWARE

PISTON-TYPE
CONTROL VALVE

HOIST MOUNTS
ABOVE FRAME

EASY-REACH
TAILGATE LEVER

ACCESSIBLE
HOIST CYLINDER

DASH CONTROLS FOR HOIST
AND TAKE-OFF

PATENTED TIRE
AND TOOL PACK

**BUY WAR BONDS — INVEST IN
AMERICA'S FUTURE AND YOUR OWN.**

HERCULES STEEL PRODUCTS COMPANY . . . GALION, OHIO

**ANY MOTOR TRANSPORT
HEATING PROBLEMS?**

Consult our Engineers
HUNTER AND COMPANY
1560 East 17th Street,
CLEVELAND 14, OHIO



CCJ NEWSCAST

(CONTINUED FROM PAGE 174)

proval at home, came acceptance abroad.

By a fortunate coincidence, the hub of the rubber industry in the 1840's was located in New York within a block or two of Schrader's shop. Among his neighbors were the Goodyear brothers, one of whom—Charles—had made the highly important discovery of the vulcanizing process in 1839. The Goodyears came to August Schrader when they needed brass fittings for their rubber products and reliable valves for their air pillows and life preservers. Within five years after the founding of his business, Schrader was established as an expert in the production of metal parts for the rubber industry. Out of this close association and early experience came the Schrader valves of today.

Continuing its tradition of service to the rubber industry, the Schrader organization has been concerned with making valves for pneumatic tires since shortly after the introduction of pneumatic bicycle tires in England in 1888 by J. B. Dunlop. From 1891 on, improvements in design were made until, in 1898, the standard tire valve was made with its core replaceable in one unit. This Schrader type valve has been an American standard for 47 years and a world standard for more than 22 years. As in the manufacture of tire valves, Schrader pioneered in the design of tire pressure gages, air chucks for inflating tires, tire valve tools, air control and air handling equipment.

(TURN TO PAGE 178, PLEASE)



While it's a common sight to see olive-drab CMC Army trucks traveling over every type of terrain on every fighting front, you wouldn't expect to see them rolling along on railroad tracks. However, the Signal Corps photos above show that the Army is using these veteran vehicles of supply on rails as well as roads. The Army converted this cab-over-engine model CMC into a railroad switch engine.

SOAX

**AUTOMOTIVE and AVIATION
CHEMICALS**

E. A. GERLACH CO.
PHILA. 40, PA., U. S. A.

Bear Down All You Want ..These Drills Won't Stall

Black & Decker Drills Give You More of "What It Takes" to Get Jobs Done

You get more for your money when you buy any Black & Decker Electric Drill . . . more performance built into the tool . . . more service behind the tool. That's why tool users of every kind, from one-man shops to the largest industrial plants, have made Black & Decker Drills the most widely used electric tools in the world.

More performance built into the tool . . . here's just one example: You can't stall a Black & Decker Drill on any job up to rated capacity. That's because we use no stock motors. Each motor is engineered and built completely, right in our own plant, to deliver maximum efficiency and performance in the particular model it drives.

More service behind the tool: Black & Decker has 25 factory-owned service branches* from coast to coast—where factory-trained men use factory equipment and genuine factory parts to give you fast service on repairs and overhauls if and when you need them.

The complete Black & Decker line includes Drills of many models and capacities from $\frac{1}{4}$ " to $1\frac{1}{4}$ ", as well as Valve Refacers, Valve Seat Grinders, Sanders and many other Portable Electric Tools. For 1945 catalog address: The Black & Decker Mfg. Co., 632 Pennsylvania Ave., Towson 4, Md. For help on any tooling problem, call your nearby Black & Decker Distributor.



LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker

PORTABLE ELECTRIC TOOLS



$\frac{1}{2}$ " STANDARD DRILL \$53.00

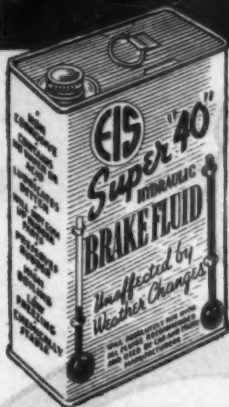
Capacity up to $\frac{1}{2}$ "
diameter in Steel,
1" in Hardwood.

$\frac{1}{4}$ " STANDARD HOLGUN \$32.50

Capacity up to $\frac{1}{4}$ "
diameter in Steel,
 $\frac{1}{2}$ " in Hardwood.

*FACTORY SERVICE BRANCHES in Atlanta, Ga.; Baltimore, Md.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cleveland, Ohio; Dallas, Texas; Denver, Colo.; Detroit, Mich.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Calif.; Memphis, Tenn.; Minneapolis, Minn.; Newark, N. J.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; San Francisco, Calif.; Seattle, Wash.; St. Louis, Mo.; Towson, Md.; Toronto, Ont.; Montreal, Que.

Super "40" **The BRAKE FLUID** **that has** *Everything*



EIS BRAKE FLUID—

is non-corrosive—contains no water or acid—preserves rubber; will not gum up rubber parts—

has an extremely low freezing point—

has a very high boiling point—

is chemically stable—doesn't lose its original efficiency—

lubricates better—

mixes with all fluids recommended and used by car and truck manufacturers.

ARE you sure the brake fluid you are using has **ALL** of the features a brake fluid ought to have? If you are not, the answer is EIS Super "40", the brake fluid that has **Everything**.

Higher in quality today than ever before during the twelve years it has been on the market.

Give your customers EIS Super "40" and you give them the tops in brake fluid service—yet Super "40" costs no more.

Write for literature on the EIS Complete Line of Brake Parts and Tools.

EIS MANUFACTURING CO., MIDDLETOWN, CONN.

STOP UP
THE *Leak*
IN YOUR
BUSINESS!

AS only one new truck will be built this year, according to ODT, to replace every four that will be junked, a serious leak is developing in the business of commercial truck operators.

You can appreciably lengthen the life of your present trucks by taking a simple precaution. Balance the wheels regularly, thereby reducing the vibration that causes terrific wear and tear on mechanical parts.



HARLEY C. LONEY CO.

16877 Wyoming • DETROIT 21, MICH.



SEND

for wall chart showing the pounding effect of unbalanced wheels.

WHEEL
BALANCING WEIGHTS

Some...
"KING" TESTING EQUIPMENT
is now available
without Priority

☆ Complete Motor Analyzers, Tachometers, and Exhaust Gas Analyzers are frozen but we are permitted to make small Testing Units, Battery Chargers, and Welders within our quota limitation. Jobbers buy from us on WPB Form 547 or PD1A and Dealers buy from "KING" Jobbers without a priority rating. The issuance of priority by WPB does not give us the right to exceed our manufacturing production limits set by their Order L-270. For this reason we cannot fill all orders. It may be possible to obtain some of the units you need to make your shop more efficient. Consult your "KING" Jobber.



"KING" MT-625

Ask Your Jobber or Write Us

The ELECTRIC HEAT CONTROL Co.
 9127 INMAN AVENUE • CLEVELAND 5, OHIO

GOOD "KING" PRODUCTS SINCE 1914

CCJ NEWSCAST

(CONTINUED FROM PAGE 176)

Personnel Changes

Harry E. Rottman, of Pine Lawn, Mo., has joined the spark plug division of Edison-Splitdorf Corp., to assist district manager H. J. Overall.

William C. Boulcott has been appointed manager of the Ford Motor Co. Omaha branch. Earl T. Zweifel and E. H. Reuss have been appointed assistant branch managers at Chicago and Milwaukee.

C. F. Larsen becomes service manager of Mack's General Service Dept. in New York. S. H. Bridges has been named manager of Mack's Poughkeepsie, N. Y., branch, replacing H. L. Weatherwax.

Carl F. Oechsle has been appointed vice-president in charge of sales of Ransome Machinery Co., Dunellen, N. J.

Martin Stolz, formerly assistant manager of equipment sales for Purolator Products, Inc., has been promoted to manager of equipment sales.

John Walker has been appointed manager of the sales engineering department of Mack-International Motor Corp.

E. Peerce Lake has been appointed general sales manager of Graham-Paige Motors.

Earle Painter, Ford dealer for 30 years, recently opened a new Ford, Mercury and Lincoln showroom in Meriden, Conn.

Paul Lightbody, formerly with the Caterpillar Tractor Co., is the new Memphis territory manager for the Hyster Co., Portland, Ore., and Peoria, Ill.

(TURN TO PAGE 180, PLEASE)

"... pay for themselves many times over in Savings and Costly Repairs..."

Says California Operator



SO writes the former operator of a 42-bus fleet . . . all Fram-equipped. Yes, this San Francisco man *knows* how Fram filters save motors, parts, overhauls, dollars and delays! And his letter is just one of many! "200,000 miles before reboring"—"wear found to be 3 and 4 times less on motors equipped with Fram filters"—these are typical of what fleet operators the country over say about Fram Oil and Motor Cleaners!

Guaranteed To Save You Money!

And here's the pay-off! With Fram filters you don't risk a single penny! Look at this Fram guarantee: Install Fram filters on your fleet and operate for 90 days. Then if you're not convinced that they

save many times their cost, we'll gladly refund your money.

Get In Touch With Your Jobber!

Don't let your old equipment fold up in the "home stretch." Keep it rolling and protect its value, with big rugged Fram filters. Call your Fram jobber today. He'll show you how Fram keeps oil physically, visibly and chemically clean. And if your fleet already has filters, he'll install Fram chemically treated replacement cartridges to step-up performance. Contact him today.

FRAM CORPORATION

Providence 16, R. I.

In Canada: J. C. Adams Co., Ltd., Toronto

FRAM OIL & MOTOR CLEANER

FREE LITERATURE

(CONTINUED FROM PAGE 58)

varied range in occupations. The technique of training those who have certain skills is discussed in detail. The booklet shows that in some jobs requiring care, patience and meticulous checking, women have been and can be employed profitably. The skills and experiences they have gained in industry during the war will prove invaluable in postwar times.

A copy of this book is available to those writing L244 on the free postcard.

CLASSIFIED ADVERTISEMENTS

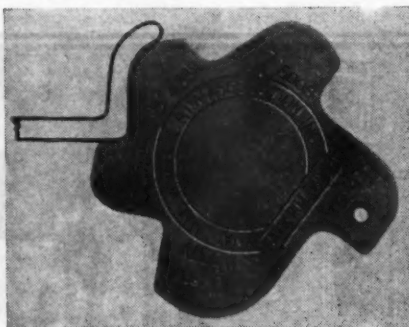
Wanted—Superintendent of Operations. New position being created by very large common carrier truck line. Desire highly competent man to be entirely responsible for the hiring, training and supervision of all dock and pickup personnel as well as dock and pickup operations over a very widespread system. Statement of availability required. Box No. 71, Commercial Car Journal, Chestnut & 56th Sts., Philadelphia 39, Pa.

WANTED—Man who has had experience in maintenance of truck leasing fleet. Must be willing to go anywhere. State salary expected, references and tell all about yourself in first letter. All replies will be held in strict confidence. Statement of availability required. Box 72, Commercial Car Journal.

L245. Truck Rim Gage

A new metal truck rim gage now being distributed to automotive service organizations and fleet operators makes it possible to identify the sizes of rims in a matter of seconds, and without removal of tires.

Around a circular metal disc of several inches diameter, various curves are stamped. Each curved section is the exact shape of a certain rim side curve.



This new metal truck rim gage is being distributed without charge to fleets by The National Wheel & Rim Assoc. For your gage just write L245 on the postcard.

END

(Please resume your reading on P. 59)

CCJ NEWSCAST

(CONTINUED FROM PAGE 178)

Lippard Relected

Thomas R. Lippard was relected president of the Federal Motor Truck Co. meeting of the board of directors recently. Also relected were: Ferdinand L. Ruddon, vice-president; Chandler A. Rogers, secretary and treasurer; Marvin L. Hudson, assistant secretary and Edmund C. Dickerson, auditor.

Truck Decline 3.48%

A total of 4,393,329 trucks and commercial vehicles were in operation on the highways of America during 1944, a decline of only 3.48 percent over total trucks operating in 1941. R. L. Polk & Co. reported in announcing the first compilation of official truck registrations since the beginning of the war. Tabulations showed a decline of 158,397 truck and commercial units since 1941, when 4,551,726 units were registered.

A. C. Butler Named Director National Highway Conference

Alfred P. Sloan, Jr., Chairman, has announced the appointment of Arthur C. Butler as Director of the National Highway Users Conference. The new Director at the same time made known that P. D. McLean, for several years head of the Information Department, has accepted the post of Assistant Director.

Mr. Butler assumed his new duties as of June 1. He was selected on the recommendation of a special reorganization committee largely comprised of representatives of motor vehicle user organizations affiliated with the Conference. He has had a wide experience in the motor transport field for the past 15 years. He joined the staff of the National Automobile Chamber of Commerce, New York, in 1930, going to that organization from the newspaper field. He was appointed manager of the Motor Truck Division of Automobile Manufacturers Assn. in 1932 and has served in that capacity until the war, at which time he was assigned to head the Military Vehicles Division of the Automotive Council for War Production, working closely with the armed services, the Government war agencies and highway user groups in military vehicle and commercial production, maintenance and operational problems.

Mr. McLean has served in the capacity of acting director of the Conference since the resignation of Chester H. Gray last fall. Prior to his appointment several years ago as director of information, he organized in the southeast some of the most successful State Conferences. Before joining the Conference staff the new assistant director had several years' experience in newspaper work.

(TURN TO PAGE 226, PLEASE)



Kleer-Flo
"30"

MECHANICAL PARTS CLEANER
ELECTRICALLY OPERATED
COLD WASHING PROCESS
for ECONOMICAL, SAFER
and FASTER CLEANING
Continuous Filtering prolongs
Efficiency of Cleaning Compound

DEEP WORKING SPACE—12" with cover closed. Handles large or small parts. No splashing. No loss of small parts. 20-gal. tank. Safety fusible link with self-closing cover reduces fire hazard. Low cost multi-purpose unit, always ready, no heating. Saves time, labor and cleaning compound. Removes mechanics' objections to cleaning dirty parts.

Use **KLEER-FLO CLEANING COMPOUNDS** for best results; especially prepared, fast-drying.

AVAILABLE ACCESSORIES—10-gallon DUNKING TANK, 15" x 18 1/2" x 9 1/2" deep, 3/4" drain plug; self-draining DRYING SHELF for basket or parts; BASKETS, 14 1/2" x 17 1/2" x 4 1/2", fit into dunking tank; strong, firm CLEANING BRUSHES.

WRITE TODAY for FULL INFORMATION

PRACTICAL PRODUCTS CO.

2632 Nicollet Ave.

Minneapolis 8, Minn.

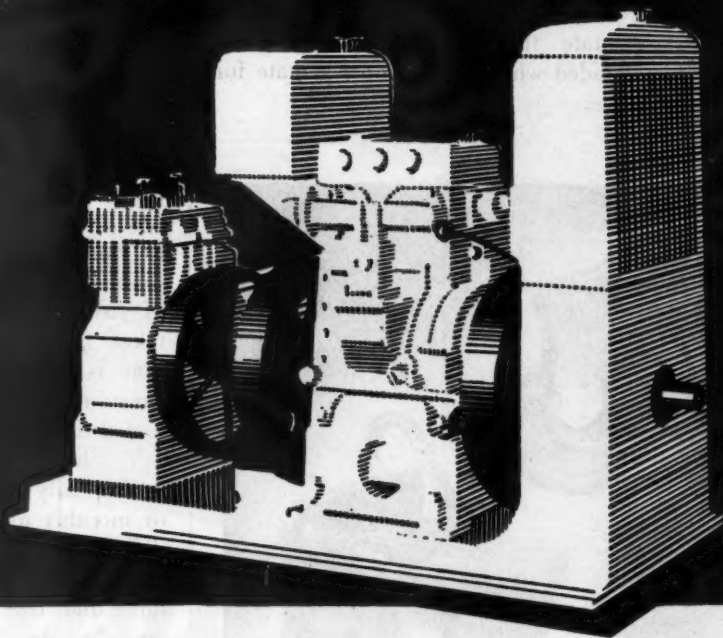
Mfrs. of Mechanical Parts Cleaners, Cleaning Compounds, Kool-Ant Pumps

Be
100%
With
10%
●
Buy
War
Bonds



L. B. O'Loughlin, newly appointed trade relations manager of the Merchandising Division of The Electric Auto-Lite Co.

Chrome-lined Donkey-engine



The donkey-engine, though small, is a "man of all work" . . . on shipboard, in mines, in oil fields, on construction jobs. Wherever there are tough jobs to do, we find the donkey-engine doing them.

Plain in appearance and with no fancy trim, these sturdy little work engines are nevertheless becoming large users of chromium, the decorative metal. But donkey-engines don't use chromium for decoration, unless it is a "decoration for merit" for greater reliability and lower maintenance cost. For the chromium they use is inside the cylinder . . . a chrome lining . . . PORUS-KROME.

PORUS-KROME is hard, pure chromium which is applied to cylinder bores by the Van der Horst process. It has tiny pores and channels in its surface which serve as reservoirs for lubri-


cating oil, feeding it back as needed. It reduces corrosion and wear, and multiplies cylinder life 4 to 20 times . . . ring life 3 to 4 times.

Every type of heavy-duty engine needs and uses PORUS-KROME . . . bus, truck, tractor, locomotive, marine, stationary power plants . . . large and small . . . even donkey-engines.

You would expect that anything as good as PORUS-KROME would be used by the Army and Navy. It is . . . in engines for submarines, destroyer escorts, mine sweepers, landing craft, tanks and airplanes. Right now, they take the entire production of the three Van der Horst plants.

But someday soon you, too, can have PORUS-KROME. In the meantime, why not investigate the advantages PORUS-KROME will give your engines?

PORUS - KROME

 *Good for the Life of your Engines*



U. S. PATENTS 2,048,978 AND 2,314,604

VAN DER HORST CORPORATION OF AMERICA

AN AFFILIATE OF DRESSER INDUSTRIES

OLEAN • NEW YORK
CLEVELAND 11 • OHIO

BREAK-IN SYNTHETICS GRADUALLY

(CONTINUED FROM PAGE 37)

used on the front and rear wheels, any tires for the rear wheels should be "broken in" by first running them on some vehicle which is in slow or short run service or in lightly loaded service for a period of at least one month.

2. Keep tires inflated to the air pressure specified by the tire and rim

association for the tire manufacturers. Do not bleed any air out of a tire when the tire is warm even though the gage-pressure may be above these values.

3. Reduce and distribute the payload on the vehicle so that each tire does not carry an excess load.

4. Keep the road speeds to 35 m.p.h. or less.

5. After the "breaking in" period, rotate the tires to more heavily loaded wheels and properly mate for use.

6. To mate tires properly for dual wheels, measure the actual tire sizes. The rolling size of a tire can be determined by measuring the diameter of the inflated tire with a large caliper or by measuring the circumference of the center of the tread with a measuring tape. After the tires have been measured, mount the largest tire in the outside position.

In mating the outer and inner tire, the following differences in sizes should be used as the limits: The inside tire should be not more than $\frac{3}{8}$ in. less in diameter than the outer tire. In terms of circumference, the inner tire should be not more than $1\frac{1}{8}$ in. less in circumference than the outer tire. This method of mating dual tires permits of different makes of tires to be mated, as this rule takes into account the chief thing that is involved in the mating of tires, namely, the actual size of the mated tires.

7. Check the sizes of mated tires periodically about every 5000 miles or monthly and remate tires to keep differences in sizes within the limits given above. This check can be made on a dual tire axle by laying a long straight edge across the top of the tread of all four of the tire treads at hub height. This straight edge check will show the differences in the radii of the inflated tires and the radius of any outer tire should not measure more than $\frac{3}{16}$ in. larger than the radius of its mated inner tire.



NEW Double Acting Pintle Hooks Automatic Industrial Couplers Solid Couplers for Trucks & Trailers

Write for detailed specifications of the complete Holland line.

All types for all purposes—engineered for smooth, efficient performance, with many special features that make the Holland line preferred by experienced truck and trailer fleet operators. Whatever your needs in pintle hooks, couplers, bars, or hitches, come to Holland with your problems;—you'll find the right product for the right spot.

Made by the makers of Famous Holland fifth wheels and landing gears.

ENGINEERED BY

HOLLAND HITCH COMPANY
HOLLAND, MICHIGAN, U. S. A.

Save Casings for Recapping

It was emphasized that the best reason for following these rules is to save the tire casing for recapping. Any lack of sound tire maintenance effort on the part of truck and bus operators only helps to aggravate the tire shortage and the laying up of trucks because of a shortage of new tires.

END

(Please resume your reading on P. 38)

Ray P. Summers has been appointed general sales manager of the Lubrication Equipment Division of Balerank Inc., Cincinnati, Ohio



*Keep 'em rolling
with*

Standard TRAILER AXLES

That's the test of trailer axles—can you keep 'em rolling while the speedometer adds up thousands and thousands of grinding miles?

Standard Trailer Axles are designed to whip the miles and the tough going. They are built to armed forces' specifications to be interchangeable with standard axles. We know how to build them for a long tough life because our four top production men alone total sixty years of trailer axle experience.

**"BE SURE
Your AXLES
ARE Standard"**

Plan to specify Standard axles in your trailers for peace time sales. Thousands of Standard Trailer Axles in service have shown that they have what it takes to win operators and influence maintenance men.

Make Standard Trailer Axles *your* standard of quality and durability by specifying them for either original installations or replacements. Write us for full details today.

Standard Forge & Axle Company
MONTGOMERY 2, ALABAMA

AXLES BRAKES FORGINGS TRAILER PARTS

WASHINGTON RUNAROUND

(CONTINUED FROM PAGE 36)

the last half of this year than in the last half of 1944; talking about giving Argentina 6½ million dollars' worth of parts because she is now our ally, and talking about giving 9000 trucks to France. Domestic war agencies are listening to FEA's talk and watching its moves. The betting is that FEA won't get away with its plans.

Shop Equipment Story

It will sound queer to laymen, but this department is informed that the only thing preventing civilians from getting 33 1/3 per cent more shop equipment is the wording of a WPB order. The material is available, the industry has the capacity, and WPB has provided a quarterly dollar value quota of \$12,000,000. Yet last year civilian production amounted to only \$9,000,000 per quarter. Queering realization of the quota is a provision in shop equipment order L-270 assigning production quotas on an historical basis. Thus each producer has a civilian quota. If he can meet it along with military orders, well and good. If he can't meet it, then that much production is simply lost to civilians. An amendment to L-270 has been proposed which will permit the taking up of this slack by companies that have the capacity. The amendment has passed the WPB Automotive Division Requirements Committee and is now circulating in the upper strata of WPB committees.

Truck Output Off 30%

Production of trucks for civilians in the first quarter fell short of the quota by almost 30 per cent. The civilian quota was 48,633 trucks; actual production was 34,447. By months, it was 10,673 in January, 10,044 in February and 13,730 in March. By truck types production for the quarter was: 1727 lights; 25,954 mediums; 5670 light-heavy, and 1066 heavy-heavy. The program for the quarter was: 8878 light trucks, 29,927 medium, 7093 light-heavy, 2735 heavy-heavy.

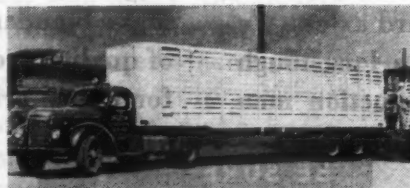
7263 Trailers Produced

Trailer production for civilians in the first quarter was 7263 units. This was better than the quota of 6500, but, as pointed out here last month, manufacturers were more concerned with producing the carryover from 1944 of 3972 units than with meeting the first quarter quota. If the carryover is deducted, the trailer program in the first quarter is short 3209 units.

Chiseling with Certificates

If you want another make of truck substituted for the one on your ODT Certificate of Transfer, you won't be able to get the substitution approved by telegram or letter from now on. Substitutions granted by telegram and letter have been used for the ulterior purpose of price chiseling and ODT doesn't want to lend itself to the scheme. ODT knows of cases where the certificate holder waved the certificate with X make specified under the nose of a Y make dealer, and then waved a telegram with a substituted Y make under the nose of an X make dealer. (Isn't it wonderful what some guys will think of to save a dollar?) Hereafter substitutions will be made only on the certificates themselves, which must be sent to Washington.

Because of the necessity for conserving paper, 24 1/3 pages of advertising have been omitted from this issue of
COMMERCIAL CAR JOURNAL



Heath Truck Service of Sturgeon, Mo., have greatly increased the efficiency of operation with the installation of this new 32-ft. tandem-axle Fruehauf Livestock Trailer. The new unit, shown making delivery at the National Stockyards in St. Louis, carries 26 1,000-lb. cattle or approximately 35,000-lb. of hogs. Principal advantage of the tandem construction, says Mr. Heath, is that the trailer has a capacity at least 10,000-lb. more than the older 26-ft., single axle unit.

Newsy Nuggets

The truck industry produced 75,255 trucks in the month of March. That's a record for the war period. . . . For a while early in April the imminence of V-E Day was on an hourly basis, WPB holding itself in readiness to receive Gen. Eisenhower's proclamation and to declare its reconversion plans effective immediately. . . . The new Federal fiscal year begins July 1 and ODT is revising its budget. The original budget was based on a two-front war. A change is being made to conform with post V-E Day conditions. The new budget is being set up on a quarterly basis with progressive reductions. . . . Up until now ODT has been what is known in bureaucratic circles as the "residuary legatee." In other words, after everybody got his, the civilians got what was left—of trucks, tires, batteries and what-not. Henceforth the Army will be the "residuary legatee." It's a sure sign that, as a production problem, the war in Europe is over. You couldn't expect the Army to take the wrong end of a stick if it wasn't. . . . Arthur C. Butler will be the next managing director of the National Highway Users' Conference. For many years he has been manager of the Motor Truck Division of the Automobile Manufacturers Association, now the Automotive Council for War Production.

END

(Please resume your reading on P. 37)



The clever piece of camouflage work, shown in the photo at the top, is a burlap, wood and wire replica of the 2½-ton, GMC "six-by-six" Army truck, pictured in the lower photo. Dummies such as this are used in combat areas to lure enemy planes away from the real trucks and their precious cargo.

For City Street

SEALED BEAM LIGHTING AT ITS BEST

and Country Highway



**NO
DIM-
OUT**

There's no dim-out with the Guide Sealed Beam headlamp unit. This sturdy, metal-backed unit stays bright and efficient throughout its long life . . . is permanently sealed to keep out dirt, dust and traffic film that could tarnish the reflecting surface. The Guide Sealed Beam headlamp unit meets the highest standards of safe lighting throughout the life of the unit.

**NO
BLACK-
OUT**

There's no black-out with the Guide Sealed Beam headlamp unit in the event of a cracked lens . . . for Guide safety engineering has provided a self-contained bulb within the sealed unit. When a lens is cracked, the Guide Sealed Beam unit continues to provide safe lighting until the damaged unit can be replaced. It safeguards the ride home—it stays on the job even though the "air seal" is broken.

For the best in Sealed Beam lighting, use Guide metal-backed Sealed Beam headlamp units for replacement. Their "double protection" feature means safer night driving.

Let **SAFETY** Share the Ride
Replace with **GUIDE**



**GUIDE LAMP—
A UNITED MOTORS LINE**

Guide Sealed Beam replacement units and Guide lamp service parts are sold nationally by United Motors Service distributors.

Guide
LAMP
DIVISION OF GENERAL MOTORS
ANDERSON, INDIANA

**For Fighters' Lives and Your Future
BUY EXTRA BONDS**

BUILDER OF AUTOMOTIVE LIGHTING EQUIPMENT

NEW PRODUCTS

(CONTINUED FROM PAGE 61)

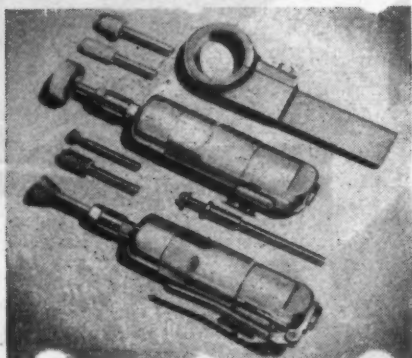
compact and does not interfere in any way with the operation of the vehicle. It may be mounted either on the dashboard or on the side panel just inside the door. A small pilot lamp on the charger indicates when the flashlight battery is charging. It may be charged, even though the motor is not running.

A complete line of charging equipment is available for charging from 115 and 230-volt source. Included are single, 6-gang and 12-gang units.

Use Free Postcard For More Details.

P65. Rotary File and Die Grinder

Featuring 11 exclusive points of practical interest to users, the new



air-operated Models 1007 and 1008 rotary file and die grinders designed and manufactured by Forss Pneumatic Tool Co., Rockford, Ill., are now in production.

High speed and power, small streamline size, and light weight make this grinder ideal for tool post work and for fine finish die grinding and similar applications. As a rotary file it is especially suitable for cleaning aluminum castings and for metal pattern work.

Features include the following: Exhaust noise reduced to a minimum; safety lock for the trigger; flexible sleeve collet chuck; extra large spindle bearing; extra heavy spindle; integral cooling system for bearings and case; built-in lubrication system; durable poppet-valve throttle; wide and comfortable trigger; rotor end plates integral with the rotor; air exhaust forward around the spindle.

Specifications show a speed of 25,000 r.p.m., length of 6½ in.,

diameter 1½ in., weight 1 lb., elastic wheel capacity 1½ in., vitrified wheel 1 in. Standard equipment is a collet chuck and extra equipment includes a flexible sleeve collet, a wheel arbor, tool post clamp, and extension spindles. The two models are alike except for the throttle control, one having a button and the other a lever.

Use Free Postcard For More Details.

P66. Plastic Base Filler

"Econite," a resinous plastic base filler, has been developed by the Evans Chemical Co., Detroit, Mich., for repair filling jobs in production and in service to replace lead solder operations. The material is applied on a cleanly prepared surface with a flexible glazing or putty knife and is finished off by filing or sanding. It is air-drying and is said to retain its adhesion indefinitely. It is claimed that razor sharp feather edges are easily obtained. It will take surface finishes of either lacquer or synthetic top coat of air-drying or baking type.

Use Free Postcard For More Details.

P67. Electrical Repair Kit

Now available is a new electrical repair kit for solderless wiring developed by Aircraft-Marine Products Inc., Harrisburg, Pa., which comes complete with tool and solderless A-MP terminals for stranded wires sizes 22 to 10.

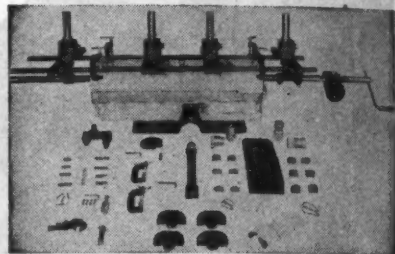
The special A-MP tool supplied with the repair kit has insulated handles of molded plastic, is of high-quality construction throughout and has a corrosion-resistant finish. The tool allows for cutting the wire to any desired length, has a gage to determine the length of insulation to be removed, and permits the wire to be inserted in an opening with markings which correspond to the wire size for accurate stripping of insulation. The wire, stripped correctly by this all-purpose tool, may then have the correct size terminal placed in position for crimping by the tool. This latter operation is accomplished by simple hand pressure and ensures even, close contact at all points.

No solder is necessary, and thus the cause of a common fault in electrical wiring is eliminated when solderless terminals are installed as a lasting contact is then assured.

Use Free Postcard For More Details.

P68. Line Boring Machine

The Ammco Model L42 Line Boring Machine, designed by the Automotive Maintenance Machinery Co., Chicago, sets up a high standard of performance in the boring of main and camshaft bearings of all cars and trucks. This precision machine is quickly and easily set up, and can be used on engines having crankcases 7 to 29 in. wide. It will accurately bore bearings from 1⅝ to 4 in. in diameter.



The boring bar is 1¼ in. in diameter and 60 in. long. The design of the bar is such that power application can be placed on either end without disturbing the feed mechanism.

"Sense of feel" is eliminated by the direct setting feature of the spring-loaded tool bit. The operator sets the micrometer on the boring bar over the tool bit to a predetermined diameter.

A hand crank is supplied for flanging operations, but also can be used for boring bearings when electric power is not available.

Use Free Postcard For More Details.

P69. "Lo-Volt" Test Glo

A new circuit tester called the "Lo-Volt" Test Glo, intended for testing circuits from 5 to 50 volts, is announced by the Ideal Commutator Dresser Co., Sycamore, Ill. It simplifies the testing of open circuits, burned out fuses, and can be used for indicating the relative value of line voltage.

The incandescent "glow" lamp is protected by a transparent plastic housing. Overall length is only 7 in. It is compact so it can readily be carried in the pocket. Fully insulated test leads are 4 in. long.

This tester is particularly suitable for telephone repair men, automotive and aircraft mechanics and electricians.

Use Free Postcard For More Details.

(TURN TO PAGE 226, PLEASE)



OVER A
QUARTER-CENTURY
*of Noteworthy
Progress*

FOR more than a quarter-century Highway Trailer Company has made a record of remarkable progress in the fields of trailer transport and public utility equipment. Highway trailers are completely *manufactured*, rather than assembled, in two modern factories and foundry at Edgerton and Stoughton, Wisconsin. Even the axles are Highway-forged! And Highway's engineering service, plus a network of factory branches and distributors covering important motor freight centers, assure trailer operators continuing satisfaction.

Highway Earth Boring Machines and Utility Equipment are recognized as standard by the greatest names in light, power, and communications. Wherever you see poles being set or lines under repair you are sure to see Highway equipment in use.

Flying high over Highway's factories, the Army-Navy "E" flag is proof of a big war job well done. To our years of fine achievement has now been added a knowledge of war-born materials and methods, evident in the better-than-ever Highway equipment now being produced.

ON EVERY U. S.
HIGHWAY



HIGHWAY TRAILER COMPANY

Factory and General Offices, Edgerton, Wisconsin

Truck Trailers and Bodies • Earth Boring Machines • Winches and other Public Utility Equipment



We are producing Highway commercial trailers under W.P.B. authorization. Available for delivery.

HIGHWAY
AMERICA'S QUALITY
TRAILERS

NEW PRODUCTS

(CONTINUED FROM PAGE 224)

P70. All Position Electrode

A new shielded arc electrode for general purpose welding of mild steel is announced by The Lincoln Electric Co., Cleveland, Ohio.

The new electrode, designated as "Fleetweld 47," offers such advantages as extremely low spatter loss, easy slag removal (most welds are practically self-cleaning), excellent re-striking characteristics, and other improved features.

"Fleetweld 47" is especially well suited for making high speed horizontal or flat fillet welds over 4-in. long in which the coating can be dragged on both plates. It has also been used extensively for both vertical and overhead fillets, especially

where large single pass fillets are desired.

This new electrode is available in the following sizes: 5/32 in. x 14 in.; 3/16 in. x 14 in.; 1/4 in. x 18 in. and 5/16 in. x 18 in. The electrodes are packed in 50-lb. containers.

Use Free Postcard For More Details.

Load Rating Correction

In the April issue item P37, on page 59, described a retractable step that may be mounted on trailers, stake bodies and others, and which is manufactured by the Saf-T-Step Sales Co. of Los Angeles. It was stated that the step is built to carry "a 100-lb. load." This is incorrect. Actually, the step is built to carry a 1000-lb. load.

END

(Please resume your reading on P. 62)

ELIMINATING GLARE

(CONTINUED FROM PAGE 136)

and more older jobs went out on the scrap heap, the situation would straighten itself out. There soon could be enough new vehicles on the road and enough auxiliary polarizing headlamps on old vehicles to really make the anti-glare system pay off.

Anyhow, the development is now being settled. Maybe something better will come along but we are not betting on that. Maybe by the time the war is over the experts will have found an even more practical answer that is not in the cards at this writing. At any rate, it is encouraging to find that many people are working on it, not just talking about it, and may turn up with a bright idea whether it be Polaroid or something else.

END

(Please resume your reading on P. 84)

CCJ NEWSCAST

(CONTINUED FROM PAGE 180)

L. A. Santry Joins Bendix Staff

Appointment of Leo A. Santry to the home office staff of the Bendix Products division of Bendix Aviation Corp. was announced recently.

Santry, formerly eastern district manager for Trailmobile Co., has been named product manager on B-K Vacuum Power Brakes and Bendix Brakes and will place particular emphasis upon the Hydrovac which combines the complete power brake system in a single compact unit, it was stated.

Tank Truck Operators Form National Group

Plans have been completed for the forming of an organization to be known as National Tank Truck Carriers, Inc., which will become affiliated as a conference of American Trucking Associations in Washington, D. C. Operators representing all types of tank truck services in 45 states and the District of Columbia agreed to link the National Tank Association, a recently formed group of eastern tank truck operators, with the Petroleum Carriers Conference of ATA.

C. E. Seargeant, Seargeant Transportation Co., Santa Barbara, Cal. presided over the meeting and was chosen president of the new ATA conference.

Truck Trailer Production*

1945	Civilian	Military	Total
January	2,861	12,432	15,293
February	2,251	12,792	15,043
Total—2 months	5,112	25,224	30,336
Total—2 months, 1944	1,793	63,034	64,827

*Automotive Division-W.P.B. Included are full and semi-trailers.

1945 Monthly Production of Trucks and Truck Tractors*

LIGHT Under 9000 lb. GVW			
1945	Civilian	Military	Total
January	21,621	21,621	43,242
February	161	20,641	20,802
Total—2 months	161	42,262	42,423
Total—2 months, 1944	...	42,574	42,574
MEDIUM 9000-16,000 lb. GVW			
1945	Civilian	Military	Total
January	10,274	3,213	13,487
February	10,590	3,378	13,968
Total—2 months	20,864	6,591	27,455
Total—2 months, 1944	3,783	22,746	26,529
HEAVY 16,000 lbs. and Over, GVW			
1945	Civilian	Military	Total
January	3,858	26,898	30,756
February	3,340	26,162	29,502
Total—2 months	7,198	53,060	60,258
Total—2 months, 1944	1,511	43,653	45,164
TOTAL—ALL WEIGHTS			
1945	Civilian	Military	Total
January	14,132	51,732	65,864
February	14,091	50,478	64,569
Total—2 months	28,223	102,210	130,433
Total—2 months, 1944	5,294	108,973	114,267

*Automotive Division-W.P.B. This material includes Jeeps, military ambulances and wheel-drive personnel carriers; half-tracks and armored cars are excluded.



S. M. Luce has been appointed division manager in charge of the Dallas, Texas, office for the General Detroit Corp.

Half-Ton Trucks in Production

The pickup truck is rolling off assembly lines of the Dodge division, Chrysler Corp., as officials announced production began on the WPB allocation for necessary vehicles for the first half of 1945. Buyers of the new trucks will have to obtain necessary priorities.

Rated at 1/2 ton with 95 gross hp., the utility Dodge truck will be the first of its kind since production stopped at the end of February, 1942. It is known as model WC and is of the same design as the prewar model.

Important features listed by truck plant general manager Lew Purdy include heavy duty oil filters, oil bath air cleaners, de luxe cab and dual adjustable rear view mirrors with long arms. The engine has aluminum pistons.



One of the heavy-duty White tractor semi-trailer units used to haul giant 25,000-gal. steel tanks over the mountains of Puerto Rico. These tanks were 40 ft. long and 12 ft. in diameter and were employed in the storage of high octane gasoline. The Ponce Trucking Corp. recently moved 25 of these big tanks over a mountain range to the other side of the island